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ABSTRACT

A study of higher education funding in Nevada, mandated by state law, is reported. The study focuses on the methods used by other states to fund higher education and investigates these methods' appropriateness or usefulness in Nevada. Representatives of the state university system, education experts, and the general public provided background information, suggestions, and proposals regarding formula funding for higher education. The report contains a copy of the bill establishing the study committee, a summary of the findings and recommendations, and the full text of the study report. The latter consists of a description of the current status of formula funding used in Nevada, a section on areas outlined for review by the University of Nevada System, a review of the university system 10-year plan, a review of formulas used by other states to fund higher education, the committee's recommendations on the university system funding proposal, and a review of potential funding sources to enhance higher education funding in the state. Recommendations are made for formula expansion for higher education support services, formula enrichment for instruction, and formula expansion in other areas, particularly staffing and acquisition of equipment and library resources. The bulk of the report consists of six appendices detailing various aspects of funding formulas for higher education in Nevada and including an analysis of selected tax sources. (MSE)

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STUDY OF FUNDING OF HIGHER EDUCATION IN NEVADA

Bulletin No. 87-30

LEGISLATIVE COMMISSION

OF THE

LEGISLATIVE COUNSEL BUREAU

STATE OF NEVADA

August 1986

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STUDY OF FUNDING OF HIGHER EDUCATION IN NEVADA (S.B. 256)

BULLETIN NO. 87-30

LEGISLATIVE COMMISSION

OF THE

LEGISLATIVE COUNSEL BUREAU

STATE OF NEVADA

AUGUST 1986

TABLE OF CONTENTS

	Page
Senate Bill No. 256 (Chapter 449, Statutes of Nevada) 63rd Session of the Nevada Legislature	iii
Report of the Legislative Commission to the Members of the 64th Session of the Nevada Legislature	v
Summary of Findings and Recommendations	vii
Report to the 64th Session of the Nevada Legislature by the Legislative Commission's Committee to Study the Funding of Higher Education	1
I. Introduction	1
II. Current Funding Formula Utilized in Nevada	1
III. Areas Outlined for Review by the University of Nevada	2
IV. Review of University System Ten-Year Plan	4
V. Review of Formulas Utilized by Other States to Fund Higher Education	8
VI. Committee Review and Recommendations on University System Funding Formula Proposal	14
VII. Review of Potential Funding Sources to Enchance Funding of Higher Education	43

TABLE OF CONTENTS
(continued)

Page

VII. Appendices

Appendix A..... 45
Formula utilized to determine instructional funding for University System..... 47

Appendix B..... 59
University of Nevada System Position Paper on Funding Formula recommendations..... 61

Appendix C..... 69
Report on University of Nevada System Planning and Formula Funding Recommendations..... 71

Appendix D..... 95
An Overview of 1985 State Budget Formulas for Higher Education..... 97

Appendix E..... 185
State Budget Formulas for Public Community Colleges.. 187

Appendix F..... 195
"An Analysis of Selected Tax Sources"..... 197

Senate Bill No. 256—Committee on Finance

CHAPTER 449

AN ACT relating to higher education; creating a committee to study methods of funding; providing for its organization, powers and duties; making an appropriation; and providing other matters properly relating thereto.

THE PEOPLE OF THE STATE OF NEVADA, REPRESENTED IN SENATE AND ASSEMBLY, DO ENACT AS FOLLOWS:

Section 1. 1. The committee to study the funding of higher education, consisting of nine voting members and five nonvoting members, is hereby created.

2. The following persons shall serve as voting members of the committee:

(a) Three members of the senate of the 63rd session of the Nevada legislature, appointed by the majority leader of the senate;

(b) Three members of the assembly of the 63rd session of the Nevada legislature, appointed by the speaker of the assembly; and

(c) Three members of the board of regents, appointed by the chairman of that board.

3. The governor shall appoint the following persons to serve as the nonvoting members of the committee:

(a) One person who represents the governor;

(b) One person who is employed in the budget division of the department of administration; and

(c) Three persons who are employed by the University of Nevada System.

4. The chairman of the legislative commission shall designate one of the members as chairman of the committee.

5. The director of the legislative counsel bureau shall provide the necessary professional staff and a secretary for the committee.

6. The voting members of the committee who are legislators are entitled to receive a salary for each day or portion of a day of attendance at a meeting of the committee in an amount equal to the salary established for the members of the legislative commission and the travel expenses and per diem allowance provided by law for members of the standing committees of the legislature. The three members of the board of regents are entitled to receive travel expenses and a per diem allowance at the rates established in NRS 396.070.

Sec. 2. The committee shall:

1. Compare the existing method of funding higher education in Nevada with the methods used in other states; and

2. Determine whether the other methods would be appropriate and useful in Nevada.

Sec. 3. The committee may hold public hearings at such times and places as it deems necessary to afford the general public and representatives of governmental agencies and of organizations interested in higher

education an opportunity to present relevant information and recommendations.

Sec. 4. The committee may employ such educational and financial consultants as it deems necessary for this study.

Sec. 5. The committee may accept and use all gifts and grants which it receives to further its work.

Sec. 6. 1. There is hereby appropriated from the state general fund to the legislative commission the sum of $55,000 for the purpose of conducting a study of the funding of higher education as provided in this act.

2. Any remaining balance of the appropriation made by subsection 1 must not be committed for expenditure after December 31, 1986, and reverts to the state general fund as soon as all payments of money committed have been made.

Sec. 7. The committee shall submit to the legislative commission a report of its findings and recommendations for legislation before the commencement of the 64th session of the legislature.

Sec. 8. This act expires by limitation on January 1, 1987.

REPORT OF THE LEGISLATIVE COMMISSION
TO THE MEMBERS OF THE 64TH SESSION OF THE NEVADA LEGISLATURE:

This report is being submitted in compliance with Senate Bill 256 of the 63rd session of the Nevada legislature which created a committee to study the funding of higher education in Nevada.

Senate Bill 256 established a fourteen-member committee, under the auspices of the joint interim finance committee, consisting of nine voting members and five non-voting members. The members of the committee include:

Voting Members

Assemblyman Bob Thomas, Chairman
Senator Donald R. Mello, Vice Chairman
Senator James I. Gibson
Senator William J. Raggio
Assemblyman Byron "Bill" Bilyeu
Assemblyman Joseph E. Dini, Jr.
Daniel Klaich, Chairman UNS Board of Regents
Carolyn Sparks, UNS Regent
JoAnn Sheerin, UNS Regent

Non-Voting Members

Dr. Joseph Crowley, President, UNR
Dr. Robert Maxson, President, UNLV
Dr. Paul E. Meacham, President, CCCC
Elaine Wynn
Bill Bible, Director Department of Administration

The study focuses on the methods utilized by other states to fund higher education and whether these methods would be appropriate and useful in Nevada. Representatives of the University System, education experts and the general public provided the committee with background information, suggestions and proposals regarding formula funding of higher education. Staff services were provided by the fiscal analysis division and the legal division of the legislative counsel bureau. The various proposals and suggestions, as well as financial data developed by the fiscal analysis division and the University of Nevada System served as a basis for the committee's review and subsequent recommendations. The committee would like to thank the many people who provided valuable information and insight to the committee regarding formula funding of higher education.

This report is transmitted to the members of the 64th session of the Nevada legislature for their consideration and appropriate action.

Respectfully submitted,

Legislative Commission
Legislative Counsel Bureau
State of Nevada

Carson City, Nevada
August 1986

* *

LEGISLATIVE COMMISSION

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SUMMARY OF FINDINGS AND RECOMMENDATIONS

This summary represents the major conclusions made by the committee studying the funding of higher education in Nevada (S.B. 256). These conclusions were made by the committee after conducting a total of six committee hearings throughout the state. The committee recommends that a number of additional areas of the University of Nevada System (UNS) budget be funded based on formula. The estimated cost of these recommendations, if implemented in fiscal year 1985-86 is $12.3 million per year. DUE TO THE FINANCIAL CONSTRAINTS THAT ARE EVER PRESENT, THE COMMITTEE RECOMMENDS THAT FULL FUNDING OF THE FORMULA BE VIEWED AS A GOAL TO BE ACHIEVED OVER A PERIOD OF TIME TO BE DETERMINED BY THE AVAILABILITY OF FUNDING EACH BIENNIUM.

The committee recommends:

A. Formula Expansion for Support Services.

1. A formula to provide funding for the academic support function (except book acquisitions) should be implemented. The committee recommends a three-tiered formula based on the following factors:

   a. A fixed number of professional and classified personnel for each college to provide support for the vice president for academic affairs and the academic deans' offices.

   b. The number of positions authorized to support library operations (excluding book acquisitions) is determined based on the number of library volumes at each campus.

   c. The remaining academic support functions would be based on a percentage of each campus' instructional budget. (Refer to page 15 for a full explanation of the recommended formula.)

2. A formula to provide funding to support the student services function should be implemented. The recommended formula would determine the number of positions authorized for student services by dividing the combined headcount and full-time equivalent students on each campus by a specified factor. Average compensation would be utilized to determine the amount of funding authorized. (Refer to page 19 for a full explanation of the recommended formula.)

3. A formula to provide funding for the institutional support function should be implemented. The formula should be based on a percentage of each campus budget (minus institutional support) plus an amount prorated for each campuses share of the operation of the business centers. (Refer to page 24 for a full explanation of the recommended formula.)

4. A formula to provide funding for operation and maintenance of plant (O & M of plant) should be implemented. The formula should be based on the following factors:

   a. Janitorial, building maintenance and supervision activities should be based on a set number of square feet of building space per position. Total funding would be based on the number of authorized positions times the average compensation paid.

   b. Grounds maintenance activities should be based on a set amount of acreage per position. Total funding would be based on average compensation.

   c. Funding for utilities is recommended not to be included in the formula but be budgeted separately based on consumption, rate increases, and new facilities. (Refer to page 27 for a full explanation of the recommended formula.)

B. Instruction Formula Enrichment

1. Endorse as a goal, reduced student/faculty ratios for nonengineering or specialized programs (nursing, dental assistants and dental hygiene, etc.) to levels approved prior to 1981, when the ratios were raised by 10 percent. In addition, the student/faculty ratio at the community colleges for developmental programs is recommended to be enhanced.

   a. For UNR, UNLV, WNCC, and NNCC, the student/faculty ratio would be reduced from 21:1 to 20:1 for nonengineering related or specialized programs. At CCCC and TMCC, the student/faculty ratios are recommended to be reduced from 25.2:1 to 24:1.

   b. Student/faculty ratios for developmental programs - Development programs are designed to prepare students to succeed in college and give them the opportunity to achieve academic or occupational goals. In order to help students who are under prepared, individualized instruction is necessary.

Due to these factors, the committee is recommending that the student/faculty ratio at the community colleges be reduced to 15:1 for developmental courses.

It should be noted that student/faculty ratios were enhanced by the 1985 legislature. Overall student/faculty ratios were reduced at UNR and UNLV from 21:1 to 19:1. At CCCC and TMCC, student/faculty ratios were reduced from an overall ratio of 25:1 to approximately 21:1.

2. Endorse as a goal, the enhancement of the full-time/part-time faculty ratio at the community colleges to 70 percent full-time, 30 percent part-time. Currently, (except at NNCC, where the full-time/part-time ratio is 54 percent to 46 percent) community colleges are provided a "core" full-time faculty with the remaining faculty positions allocated 45 percent full-time, 55 percent part-time. In fiscal year 1985-86, the actual full-time/part-time ratios for the community colleges are outlined below:

Campus	Full-time/Part-time Ratio
CCCC	51/49%
TMCC	57/43%
WNCC	49/51%
NNCC	54/46%

3. The classified support ratio for instruction at the community colleges should be enhanced from one classified position for every six faculty to one classified position for every five faculty.

4. A formula should be utilized to determine the amount provided for graduate assistants at UNR and UNLV. The committee has endorsed the following formula for graduate assistants with implementation to be accomplished as funding becomes available. The recommended formula would provide one graduate assistantship for every five FTE graduate students and one graduate assistantship for every 3.3 FTE doctoral students. The proposed salary for graduate assistants would be increased from $5,500 per year to $8,800 per year. In addition, funding for letters of appointment (part-time faculty) is recommended to be eliminated. (Refer to page 34 for a full explanation of the recommended formula.)

C. Formula Expansion in Other Areas

1. Funding appropriated for replacement of equipment has normally been provided to the University of Nevada System based on the state's financial condition each legislative session. The committee felt that this did not allow the University System to adequately plan for the orderly replacement of obsolete equipment. The committee recommends, contingent on sufficient funds being available, that each fiscal year the University of Nevada System be provided with 5 percent of their year-end equipment inventory adjusted by the capital equipment index.

2. A formula should be utilized to determine funding for library acquisitions at the universities and community colleges.

   At the community colleges, it is recommended that the formula be based on the Learning Resource Center Standards for college libraries. The main formula factors are the number of library volumes based on the number of FTE students and the average price per volume which is estimated at $30.

   For UNR and UNLV, the committee is recommending a formula adapted from an updated Clapp Jordan formula utilized by the Oregon Department of Higher Education. The main formula factors are a set number of library volumes based on the number of faculty, number of students and the number of master and doctoral programs offered. It is recommended that the formula be applied to both UNR and UNLV and that the total funding which would be generated by the formula be equally divided between the two campuses. (Refer to page 37 for a full explanation of the recommended formula.)

3. Specific funds for equipping new positions at the University of Nevada System should be provided. Currently, the University of Nevada System purchases equipment within the operating category and has not been granted a specific amount for each new position authorized. The committee also recommends that the cost of this recommendation be partially offset by eliminating funds currently provided in the operating category for this purpose.

4. The committee has endorsed, as a goal, that state support be provided for the summer session contingent on sufficient funds being available for that purpose.

REPORT TO THE 64TH SESSION OF THE NEVADA LEGISLATURE
BY THE LEGISLATIVE COMMITTEE STUDYING
THE FUNDING OF HIGHER EDUCATION IN NEVADA

I. INTRODUCTION

Senate Bill 256, of the 1985 session of the Nevada legislature, created a fourteen-member committee consisting of legislators, university regents, university and community college presidents, the director of the department of administration and a representative of the governor to review how other states utilize formulas to fund higher education and to determine if the expansion of the current formula would be appropriate and useful in Nevada.

The University of Nevada System (UNS) has used a formula to determine the amount of support provided for instructional activities for over a decade. The formula concept was adopted in 1969, and reaffirmed by a legislative interim study committee in 1975. While the 1975 interim study committee did recommend funding of instruction through a formula, it also recommended that the formula not be extended to the non-instructional areas and that the formula be continually monitored and modified when necessary. While there have been some minor changes made over the years, the same basic formula used to determine funding of instructional activities still exists today.

During the 1985 legislative session, there was testimony that indicated the need to review how funding was approved for support functions such as library acquisitions, maintenance of facilities and student services which includes registration, admissions and counseling. Other areas identified for review included the relationship between headcount and full-time equivalent (FTE) students particularly at the community colleges. With the number of part-time students increasing, it was felt that the demands placed on instruction and support services should be reviewed. Also there was a concern expressed that the current instructional formula did not provide funding for replacement of equipment and the need for new equipment on campus.

II. CURRENT FUNDING FORMULA UTILIZED IN NEVADA

For budget purposes, the UNS budget is divided into twenty-one appropriation areas each of which is broken down into the functional areas of instruction, academic support, student

services, institutional support and operation and maintenance of plant.

The current funding formula determines the support provided only for the instruction function and is based on the number of full-time equivalent students enrolled or projected to be enrolled at each campus. The number of faculty postions is determined by dividing the number of FTE students by the authorized student-faculty ratio. For example, if a campus is projected to enroll 6,000 FTE students with a student-faculty ratio of 20:1, a total of 300 faculty positions would be authorized. Total funding is based on the average faculty salary paid in the current fiscal year plus any salary increases which are funded by the legislature.

Other components of the instructional formula include calculations for classified support positions, wage position support (hourly employees who are usually students) and operating expenses. For a full explanation of the current instructional formula, please refer to Appendix A.

III. AREAS OUTLINED FOR REVIEW BY THE UNIVERSITY OF NEVADA SYSTEM

At the committee's first meeting, the UNS provided the committee with a position paper which outlined the budget areas the university system felt needed to be addressed during the course of the interim study. Each of the areas of concern are outlined below (a copy of the UNS position paper is provided in Appendix B):

Instruction

1. UNS recommends continued strengthening of the student-faculty ratios through strengthening of the overall student-faculty ratio. Additionally, ratios for specific programs (for example, developmental in the community colleges and business and economics in the universities) should be strengthened on an individual basis when appropriate;

2. The full-time/part-time faculty ratios at the community colleges need to be revised;

3. The classified support ratio in instruction for the community colleges needs to be reduced to the same level as for the universities (from 6:1 to 5:1);

4. The method of budgeting graduate assistants for the university should relate to FTE faculty. Currently they are budgeted at a flat rate;

5. An appropriate method of amortizing instructional and research equipment over time and providing for its maintenance needs to be developed;

6. An appropriate allotment for equipping new positions needs to be developed so that each new position is equipped properly at time of hiring;

7. Year-round funding needs to be considered;

8. Setting compensation goals needs to be explored for inclusion in the formula.

Support Functions

1. The formula needs to be expanded to include support functions such as student services, institutional support, academic support and operation of maintenance of plant. The current formula fails to recognize the relationship between instruction and the support functions. Therefore, funding for these areas has not kept pace with the rapid institutional growth;

2. Funding for the operation and maintenance of campus facilities should be included in the formula. The current practice of providing these funds on an incremental basis is inadequate, particularly for preventative maintenance;

3. Book and periodical acquisitions need to be included in the formula. These are funded incrementally in the current budget based on a flat rate.

4. Expanding the formula to include support functions would expand the definition of the "base budget" and limit the "enhancement budget" for expenses such as new programs, special equipment acquisitions and developing centers for excellence.

After reviewing the UNS position paper, the committee decided that it should look into the future to where the University of Nevada System expected to be in the year 2000. Through this review, it was anticipated that the formula recommendations

developed by the committee to address each of the areas outlined by the university system would not become obsolete in a short period of time. Therefore, the committee requested that the university system develop a ten-year plan which would outline the number of students and the academic programs expected through the year 2000.

IV. UNIVERSITY SYSTEM TEN-YEAR PLAN

The UNS outlined for the committee the planning activities conducted by the university system in a document titled Report on University of Nevada System Planning and Formula Funding Recommendations (please refer to Appendix C page 69). This report outlined the various planning documents which have been developed by UNS regarding future goals as well as the the broad formula funding recommendations of the University of Nevada System. This report indicates that all campuses regularly engage in planning activities. A university system planning report is prepared each biennium and is submitted to each session of the legislature. The report outlines major higher education issues over a four-year period including information on student enrollment, the attainment of needed financial support, providing quality education, attaining institutional goals, planning for engineering education and other needs. It also contains campus information on academic priorities and programmatic trends, capital construction needs, budget priorities and comments on campus objectives and institutional goals. This report also serves as an update to the university system planning document Nevada 2000 - Future Directions for Nevada Colleges and Universities.

Nevada 2000 was published in 1983 and estimates population, economic changes, student enrollment and academic programs which will affect the University of Nevada System through the year 2000. In addition, comprehensive campus plans were published in 1981 and a comprehensive review of programs for all campuses was accomplished and accepted by the board of regents in 1983. These documents were provided to the committee to illustrate the efforts made by the University of Nevada System to plan for the future. They analyze demographic, technological, economic, academic, financial and social issues facing higher education through the year 2000.

The report noted that the primary goal for the future is to raise the quality of higher education in Nevada. These goals include:

1. Enhance high quality faculty (offer salaries very competitive on a national scale);

2. Enhance high school quality (offer improved scholarships and raise standards);

3. Endow academic and research chairs; and

4. Enhance excellence in teaching, research, training and public service.

The report also outlined the goals established for each of Nevada's universities and community colleges.

Universities and Desert Research Institute

The universities have the primary mission of providing high quality instruction as well as to undertake and provide programs of basic and applied research. Another mission is to sponsor and conduct continuing programs of public service for the citizens of Nevada. Southern Nevada is expected to grow into a major metropolitan area. This growth will be a positive factor in the development of the University of Nevada, Las Vegas as a major research institution. Nineteen new degree programs are expected to be implemented at UNLV by the year 2000. UNLV will also strive to achieve accreditation of current academic programs with appropriate accrediting bodies.

The University of Nevada, Reno anticipates the addition of new academic programs especially those programs with a strong emphasis on liberal arts, research and inter-disciplinary programs. UNR will also continue to identify and support centers of excellence to achieve national and international recognition.

The Desert Research Institute will continue its efforts to build a national and international reputation as a research institution and it is anticipated it will also play a major role in supporting Nevada's economic development into the 21st century.

Community Colleges

Nevada's community colleges have a five-fold mission to provide occupational/technical programs, university transfer programs,

community service programs, developmental education and counseling and guidance services. Offering technical and occupational training in response to Nevada's work force needs will continue to be a major contribution of Nevada community colleges.

The following outlines the new or expanded programs anticipated at each campus through the year 2000.

1. Clark County Community College

   New or expanded programs in the medical field, court reporting and gaming technology.

2. Truckee Meadows Community College

   An expanded child development program, a certificate program in graphic arts/print production and development of programs in robotics, welding, drafting and electronics.

3. Western Nevada Community College

   New and expanded programs in CAD/CAM drafting, manufacturing, engineering, technology, electronics and drafting.

4. Northern Nevada Community College

   Expansion and restructuring of its geo-technical science program and a new electronics program.

The report also identified five issues which will have a possible impact on higher education planning. Each issue is listed below:

1. High Quality Education

   In this area the report indicates that the state must be prepared to enhance funding of higher education by augmenting public support and establishing endowed chairs and through increased support and scholarships to students. In order to recruit and retain outstanding faculty, faculty salaries should be within the top quartile of the nation by the year 2000. Also, in an effort to improve quality education, new high school course admission requirements will be implemented effective in the fall 1989 semester.

2. Economic Development

The University of Nevada System plays an active role as a partner in the statewide economic development effort. High-quality education is a leading factor in Nevada's economic diversification potential. Increased partnerships with business and industry will contribute toward economic growth and development in the state. Organized programs for the development of new jobs, economic forecasting and resources which benefit both business and citizens will continue to be provided through a variety of centers and research institutions. Nevada community colleges will continue to provide occupational programs and technical training in response to community need as well as develop curriculum and programs which reflect the current and future requirements of business and industry.

3. New Technology

The report states that higher education in Nevada will be a cause of and a part of the technological revolution of the state. The economic development of Nevada is dependent on research and development conducted by universities and research institutions. A flexible community college system can provide occupational and "quick-start" training for a changing work force. Also new methods of instructional delivery such as telecourses and computer-aided instruction will be efficiently used by faculty.

4. Demographic/Enrollment

The UNS projects that by the year 2000 system-wide enrollment will reach 70,000 headcount students compared to 46,000 headcount students currently enrolled. UNLV is expecting a 3.5 percent annual increase in students and UNR estimates student enrollment to increase 1.5 to 2 percent per year. At the community colleges, a 3 percent annual student growth is expected with the enrollment mix to include more part-time students, older students and life-long learners.

5. Financial Resources

The report indicates that in order to secure necessary resources, the UNS must enhance the use of non-state funding through use of private sector resources, endowments, shared

executives and industrial internships for students and faculty. Expanded support must also be explored through grant contracts and student aid.

V. REVIEW OF FORMULAS UTILIZED BY OTHER STATES TO FUND HIGHER EDUCATION

The committee was directed in Senate Bill 256 to compare the existing method of funding higher education in Nevada with the methods used in other states and to determine whether the other methods would be appropriate and useful in Nevada.

The committee was interested in reviewing the latest information which was available since states modify and adjust funding formulas frequently. Dr. Jane Adams Lamb, Associate Professor at the University of Nevada, Reno recently completed a very comprehensive review of all formulas currently used throughout the nation to fund higher education in conjunction with her doctoral thesis at the University of Tennessee.

The committee requested Dr. Lamb to compile information from her review of formulas nationwide outlining the various methods used by other states to fund higher education based on a formula. Dr. Lamb's report titled An Overview of 1985 State Budget Formulas for Higher Education provided the committee with an overview of how states utilize formulas to fund higher education. The report reviewed the different methods utilized to fund the various budget components which are based on a formula, summarized the formulas developed by each state to fund these budget components and outlined recent trends that have developed regarding the use of formula funding in higher education. Dr. Lamb's report also reviewed in detail formulas from five states which illustrate different methods which are utilized to fund higher education across the nation. The five states (Mississippi, New Mexico, Georgia, Oregon and Tennessee) were presented in order of increasing complexity and represent different approaches to formula development. Each of these formulas are presented in detail and can be reviewed by referring to Appendix D on page 97.

Dr. Lamb also reviewed the various formulas utilized by states to fund community colleges. Some states utilize the same formula to fund both universities and community colleges while other states utilize a separate formula for two and four-year institutions. The budget formulas to fund community colleges in the states of Alabama, Illinois, Kentucky, Michigan and New Jersey were outlined for the committee and may be reviewed by referring to Appendix E on page 187.

Formula funding is determined by using three basic components. The first component is the base factor and could include full-time equivalent (FTE) students, number of books in the library or number of square feet on campus. The second component is the formula factor which could include student-faculty ratios or percentage of campus budget. Finally, these items are combined with a cost component to determine recommended funding. For example in the instructional formula utilized in Nevada, the base factor would be FTE students, the formula factor would be student-faculty ratios and the cost component would be average faculty salary. There are three methods utilized in the calculation of formulas which are outlined below:

1. Rate Per Base Factor Unit

   Base factors such as FTE students or square footage are multipled by a specified rate per unit. For example, a fixed dollar amount could be provided for each full-time equivalent student which would provide funding for the instructional component of the budget.

2. Percentage of Base Factor

   A set percentage of a functional budget area determines another budget area. For example, the institutional support function within the budget could be based on a percentage of the instruction function.

3. Base Factor Position Ratio with Salary Rates

   Given position ratios are applied to base factor data to determine total number of positions and this is then multiplied by established salary rates. This is the method utilized by the university system to determine funding provided for instruction. The number of FTE students is divided by the authorized student-faculty ratio and then multiplied by the average faculty salary.

A total of 33 states currently utilize a formula process either as a basis for the budget request or in allocating funds to various institutions. Formulas are used to fund up to seven functional classifications in each state. These functions include instruction, academic support, research and public service, institutional support, student services, operation and maintenance of plant and library acquisitions. How the various states utilize formulas to fund each of these functional classifications is outlined briefly below:

Instruction/Academic Support

The instruction function provides support for all activities related to the institutions' instruction program including credit, non-credit courses for academic, vocational, technical or remedial courses. The academic support function provides services that directly assist the instructional or academic functions of an institution such as libraries, museums, media services and academic administration which includes deans but not department chairmen.

A total of 33 states utilize a formula to fund instructional and/or academic support activities. Formulas currently used to fund these functions include factors such as student credit hours, full-time equivalent students and student-contact hours. One of these factors is usually used in conjunction with approved student-faculty ratios, faculty-staff ratios, teaching productivity factors or set percentages. For example, in Nevada the number of FTE students enrolled is divided by the authorized student-faculty ratio. If a total of 6,000 FTE students are enrolled and the student-faculty ratio is 20:1, a total of 300 faculty would be authorized. Average faculty compensation is utilized to determine the total funding authorized for faculty salaries. Another formula method utilized by other states multiplies the number of student credit hours by a dollar amount per credit to determine funding authorized for instruction. A schedule of the formulas utilized by each of the 33 states to fund the instruction and/or academic support component was provided to the committee in Dr. Lamb's report. Please refer to pages 139-149.

Research and Public Service

Twelve states currently utilize a formula to fund this component. Formulas utilized most often include percentage of other components of the budget or the previous year's budgeted amount for research and public service.

Student Services

The student services function includes the offices for recruitment, admissions, registration, counseling, career guidance, student aid and any activities whose primary purpose is to contribute to the student's intellectual, cultural and social development outside the formal instruction program.

There are currently 18 states which utilize a formula to determine the level of funding for student services in higher education. The most frequently used formula is a set dollar amount per headcount or FTE student. In some cases a guaranteed amount is provided plus an additional amount based on the number of students. Student/staff ratios are also utilized in some states. Please refer to pages 161-165 for a complete listing of the various formulas utilized by the 18 states to fund student services.

Institutional Support

The institutional support function provides funding for central-executive level activities concerned with management and long-range planning of the entire institution such as the president's office, fiscal operations, logistical activities that provide procurement, storeroom, safety, security, printing support services to faculty and staff and activities concerned with community/alumni relations including development and fund raising.

There are currently 20 states that utilize a formula to determine the level of funding for institutional support. The most frequently used formula is a percentage of the total campus budget (less institutional support). Other formulas base funding on FTE students, headcount students, student credit hour production or budgeted amount for instruction. Dr. Lamb's report outlines the various formulas used by the 20 states to fund institutional support. Please refer to pages 155-159.

Operation and Maintenance of Plant

This function includes custodial, building maintenance, grounds maintenance and supervisory activities. Also included are utilities, property insurance and similar items.

There are currently 22 states which utilize a formula to determine the level of funding for Operation and Maintenance of Plant (O&M of Plant). Formulas utilized include square foot/staff ratios, acreage/staff ratios, staff/supervisor ratios, dollars per headcount student and various percentage calculations. Please refer to pages 167-177 for a complete listing of the various formulas utilized by the 22 states to fund O&M of Plant.

Library Acquisition

Eighteen states currently use a formula to fund the operational or book acquisition costs of university libraries. Formulas are based on student credit-hour production, FTE enrollment, headcount enrollment, FTE faculty staff, other parts of the budget, number or type of academic programs and the previous year's budget. A schedule of the formulas utilized by each of the 18 states to fund the operational or book acquisition cost of libraries was provided to the committee in Dr. Lamb's report. Please refer to pages 179-183.

In addition to the formulas utilized to fund the six functional classifications outlined above, 21 states are currently providing incentives to improve the quality of higher education by funding policy. Ten types of programs were identified:

1. Categorical One-Time Grants

   Grants given for a specific purpose to a specific area with no promise of continuation funding.

2. Percentage of Total Budget

   Addition of a certain percentage of the total operating budget to create incentive monies for quality improvement.

3. Designated Area

   Funding specifically earmarked for particular academic disciplines to upgrade the quality of their offerings.

4. Competitive Grants

   Monies awarded to campuses or disciplines competing within the system with proposals to upgrade quality.

5. Program Review

   Required periodic review of academic programs that is in some way linked to continuation funding or that enhance funding.

6. Student Testing

   An outcome measure of quality based on required testing of students on a pre-set instrument.

7. Other Stated Outcomes

   In addition to or in place of student testing, any measure of quality that emphasizes outcomes or performance.

8. Student Scholarships

   The state funding of merit (not need based) scholarships to attract and keep academically talented students in state and in public higher education.

9. Centers of Excellence

   The creation of funding of centers specifically designed to foster excellence and focus on quality issues.

10. Staffing

    The establishment and funding of chairs or reward systems designed to attract or keep quality faculty.

There appears to be a great deal of interest in budget formulas since many states recently have reviewed and amended the formulas currently utilized. The following trends have appeared in the formulas which have recently been adopted:

1. The use of headcount students as a base factor.

2. The use of data from comparable institutions to establish portions of the formula.

3. Inclusion of more items which are funded under formula.

4. The use of summer school enrollments as part of full-time equivalent student credit hour count.

5. Structured mechanisms within the formula for special requests.

6. More factors reflective of differences in role and mission with particular emphasis on academic disciplines.

VI. COMMITTEE REVIEW AND RECOMMENDATIONS ON UNIVERSITY SYSTEM FUNDING FORMULA PROPOSAL

After the review of how other states utilize formulas to fund higher education, the committee requested the UNS to submit its recommendations for expansion of the current funding formula.

The university system placed each of their proposals into three priority groups:

1. Expansion of the formula for support functions (student services, institutional support, academic support and O&M of Plant);

2. Enhancement of the instructional formula;

3. Provision of a book acquisition, equipment replacement and year-round funding formulas.

Priority #1 - This priority provides for expansion of the formula for all support functions including academic support, student services, institutional support and operation and maintenance of plant. The committee, in reviewing the UNS proposal, utilized fiscal year 1985-86 to compare the funding required under the proposed formula to the actual funding approved for fiscal year 1985-86.

In addition to the formula proposed by UNS under priority #1, the committee reviewed two other alternatives that would base support functions on a formula. The first alternative which would require no additional funding was requested by legislative members of the committee to illustrate how the various formulas could be implemented without an increase in funding. Some committee members, while in favor of developing and implementing a formula to determine funding for the various components of the UNS budget, expressed concern that the formula should not be tied to an increase in funding for higher education. By separating the issue of implementing a funding formula from that of increased funding for higher education, the formula could be analyzed on its own merit without being analyzed based on estimated funding available next biennium or prioritized with funding requests from other state agencies. The committee members who requested this pro forma alternative felt the implementation of the formula was important even if no additional funding was provided. With a formula in place as institutions grew, the formula would generate additional funds needed to finance the additional services required.

The second alternative was provided to the committee by the UNS as an option if the committee chose not to recommend a formula based on the university system's original proposal. This option would not require as much additional funding as the formula recommended by the university system and would not require any campus to incur a reduction in funding. If a campus presently was funded at a higher level than could be justified through the formula, no increase in funds would be provided until additional funds could be justified through the formula.

The following information outlines the formulas proposed by the university as well as the two other alternatives reviewed by the committee for each support function.

1. Academic Support

The formula proposed for academic support at the University of Nevada Reno (UNR) and the University of Nevada Las Vegas (UNLV) contains three components. The first component would provide funding for core positions, mainly the vice-president for academic affairs and deans for each college plus support staff. The second component would fund library positions and operating support based on the number of volumes at each campus. The final component would fund the remaining functions within academic support (excluding library books) based on a percent of each campus' instructional budget. For community colleges, the academic support formula (excluding library books) is based on a percent of each campus' instructional budget. The following outlines the specific formula proposed by UNS.

A. Universities

1. Two professional and one classified position would be provided for the vice-president of academic affairs plus one professional and one classified position for each college/school. The dollar amount would be based on the number of positions authorized multiplied by the average salary. This would produce the following number of positions at an estimated cost of $971,718 at UNR and $725,112 at UNLV:

	UNR	UNLV
Professional Positions	12	9
Classified Positions	11	8
TOTAL	23	17

2. Funding for library operations (excluding book acquisition) would be based on the number of volumes at each...institution:

0 - 500,000 volumes	50 positions at $32,000 per position (including support funding)
every additional 16,000 volumes	1 position at $32,000 (including support funding)

The UNR library currently has approximately 780,000 volumes which would generate 67.5 positions at a cost of $2,160,000 (includes support funding). The UNLV library currently has approximately 500,000 volumes which would generate 50 positions at a cost of $1,600,000 (includes support funding).

3. The remaining component of academic support would be funded by applying a rate of 6.5 percent to each campus' instruction budget. Applying this rate to the fiscal year 1985-86 budget results in $1,218,259 at UNR and $1,127,412 at UNLV.

Outlined below is a recap of the estimated cost in fiscal year 1985-86 to implement the proposed academic support formula for UNR and UNLV:

Funding Component	UNR	UNLV
Administrative Positions	$ 971,718	$ 725,112
Library (Excluding Book Acquisitions)	2,160,000	1,600,000
Other Support	1,218,259	1,127,412
Total Estimated Cost	$4,349,977	$3,452,524
FY 1985-86 Operating Budget	4,296,748	3,319,068
Additional Cost	$ 53,229	$ 133,456

B. Community Colleges

The proposed academic support formula (excluding book acquisitions) for the community colleges is based on 20 percent of each campus' instructional budget for Clark County Community College (CCCC), Truckee Meadows Community

College (TMCC), and Western Nevada Community College (WNCC) and 25 percent for Northern Nevada Community College (NNCC). The estimated cost in fiscal year 1985-86 is outlined below:

Campus	%	1985-86 Instructional Budget	Proposed Academic Support Budget	1985-86 Academic Support* Budget	Difference
CCCC	20%	$4,996,000	$999,000	$832,000	$167,000
TMCC	20%	3,586,000	717,000	613,000	104,000
WNCC	20%	1,712,000	342,000	335,000	7,000
NNCC	25%	880,000	220,000	213,000	7,000

*Excludes book acquisitions

The committee reviewed two other alternatives that would base academic support funding on a formula. The first is a pro forma alternative which would alter the formula drivers resulting in no additional cost and the other alternative would adjust the formula drivers to a minimum level producing no reduction to any campus budget.

The change in funding (fiscal year 1985-86) for each campus based on the university system proposal and the two pro forma alternatives is outlined below:

Campus	University Proposal	Pro Forma No Cost	Pro Forma No Campus Reduction
UNR	$ 53,229	($44,000)	$ 0
UNLV	133,456	43,000	85,000
CCCC	167,000	32,000	147,000
TMCC	104,000	7,000	90,000
WNCC	7,000	($38,000)	0
NNCC	7,000	0	0
TOTAL	$471,685	$ 0	$322,000

The pro forma alternative which would require little or no additional cost would alter the formula proposed by UNS as follows:

1. Universities - The third part of the proposed formula would

be changed from applying a rate of 6.5 percent to each campus' instructional budget to a rate of 5.977 percent.

2. Community Colleges - The rate in the proposed formula would be changed from 20 percent to 17.3 percent at CCCC, TMCC, WNCC and from 25 percent to 24.2 percent at NNCC.

As indicated in the previous table, this alternative would provide additional funds for some campuses while decreasing funds in other campuses. UNLV would receive an additional $43,000 while funding for UNR would decrease by $44,000. At the community colleges funding at WNCC would decrease $38,000, there would be no change at NNCC and funding would increase by $32,000 at CCCC and $7,000 at TMCC.

The second alternative would not impose a funding reduction on any campus and was provided to committee members by UNS as an option if the committee chose not to recommend a formula based on the university system's original proposal. The estimated cost of this alternative is $322,000 per year as outlined in the table on page 17. The formula proposed by UNS would be adjusted as outlined below.

1. Universities - Change the rate in the third part of the proposed formula from 6.5 percent to 6.22 percent.

2. Community Colleges - Change the rate in the formula from 20 percent to 19.6 percent at CCCC, TMCC, WNCC and from 25 percent to 24.2 percent at NNCC.

In an effort to determine to what extent academic support had kept pace with instructional growth, the committee reviewed the academic support (excluding book acquisitions) allocations in relation to each campus' instructional budget from FY 1981-82 through FY 1985-86. This analysis includes the funding which would be allocated for academic support based on the proposed formula.

ACADEMIC SUPPORT
Academic Support as a Percent of Instruction
(Excluding Library Acquisitions)

Fiscal Year	UNR	UNLV	CCCC	TMCC	WNCC	NNCC
FY 1981-82 Actual	24.8%	22.5%	14.4%	20.4%	19.7%	25.3%
FY 1982-83 Actual	23.3	20.9	13.4	18.7	18.6	23.4
FY 1983-84 Actual	24.1	19.8	15.0	16.4	24.9	24.9
FY 1984-85 Actual	24.4	19.2	15.0	23.3	19.7	24.5
FY 1985-86 Operating Budget	22.9	21.8	16.7	17.1	19.6	24.2
FY 1985-86 Based on Proposed Formula	23.2	22.5	20.0	20.0	20.0	25.0

As the table indicates, the proposed formula, in most cases, would bring funding for academic support to levels provided in FY 1981-82.

COMMITTEE RECOMMENDATION:

The committee recommends that the formula for funding of the academic support function proposed by the university system be adopted. The committee also recommends that the additional funding required to implement the formula be viewed as a goal to be achieved over a period of time to be determined by the availability of funds each biennium.

2. Student Services

The proposed formula for determining the number of positions for student services is determined by adding both full-time equivalent students (FTE), headcount students and resident students and dividing by a certain factor. Salaries and operating dollars would be calculated by using an existing average for FTE positions plus inflationary increases. The following outlines the specific formula proposed by UNS.

Universities

The number of positions is determined by dividing the:

1. Combined headcount and FTE student enrollment up to 10,000 by 300.

2. Combined headcount and FTE student enrollment over 10,000 by 400.

3. Number of resident students by 100.

Community Colleges

The number of positions is determined by dividing the combined headcount and FTE student enrollment:

1. For CCCC, TMCC and WNCC by 400.

2. For NNCC by 375.

The estimated cost in FY 1985-86 to implement the proposed student services formula is $510,959 and is outlined below:

Campus	FY 1985-86 Headcount & FTE Enrollment	FTE Positions	FY 1985-86 Positions	Additional Positions	Estimated Cost
UNR	15,744	57.69*	56.70	1.00	$ 32,067
UNLV	19,316	58.62*	47.99	10.63	290,210
CCCC	13,733	34.33	31.50	2.83	87,113
TMCC	9,313	23.28	22.00	1.28	41,138
WNCC	4,536	11.34	10.00	1.34	43,692
NNCC	2,479	6.61	6.00	0.61	16,739
					$510,959

*Includes component for resident students. Currently 1,000 resident students are enrolled at UNR and 200 resident students are enrolled at UNLV.

At the committee's work session there was some discussion concerning the inclusion of resident students as a factor in the student services formula. The original formula proposal made by the university did not include this factor; however, it was subsequently added by the university due to

the student resident population utilizing student services functions to a greater extent than other students. This factor increases the amount allocated to UNR by $32,067 and UNLV by $54,602.

The committee has recommended that the resident student component not be included in the student services formula since data is not currently available to justify the greater use of student services activities by resident students. However, the university system is currently collecting this information and the committee did agree that once this information is available, the university system could present its data supporting the inclusion of resident students as a factor in the student services formula.

The committee reviewed two other alternatives that would base student services funding on a formula. The first is a pro forma alternative which would adjust the formula drivers resulting in no additional cost and another alternative which would adjust the formula drivers to a minimum level producing no reduction to any campus budget.

The change in funding (fiscal year 1985-86) for each campus based on the university system proposal and the two pro forma alternatives is outlined below:

Campus	University Proposal as Amended by Committee	Pro Forma No Cost	Pro Forma No Campus Reduction
UNR	0	($265,000)	$ 0
UNLV	$235,608	265,000	265,000
CCCC	87,113	8,000	54,000
TMCC	41,138	(15,000)	18,000
WNCC	43,692	16,000	32,000
NNCC	16,739	(7,000)	0
TOTAL	$424,290	$ 2,000	$369,000

The first alternative was requested by legislative committee members to illustrate how the formula for student services could be implemented without a large increase in funding. This alternative would require little or no additional funding and would adjust the formula proposed by UNS as follows:

1. Universities - Combined headcount and FTE enrollment divided by 334.9 (instead of 300 for combined enrollment up to 10,000 students and 400 for combined enrollment over 10,000 students).

2. Community Colleges - Combined headcount and FTE enrollment would be divided by 432.5 instead of 400.

As the previous table indicates, this alternative would provide additional funds for some campuses while decreasing funds in other campuses. UNLV would receive an additional $265,000 while funding at UNR would be decreased by the same amount. Funding would decrease by $15,000 at TMCC, and $7,000 at NNCC while CCCC would receive an increase of $8,000 and WNCC would receive an additional $16,000.

The second alternative would not impose a funding reduction on any campus and was provided to committee members by UNS as an option if the committee chose not to recommend a formula based on the university system's original proposal. The estimated cost of this alternative is $369,000 per year as outlined in the table on page 21. The formula proposed by UNS would be adjusted as follows:

1. Universities - Combined headcount and enrollment by 334.9 (instead of 300 for combined enrollment up to 10,000 students and 400 for combined enrollment over 10,000 students.

2. Community Colleges - Combined headcount and FTE enrollment would be divided by 432.5 instead of 400.

The committee reviewed two methods of determining if support for student services had kept pace with increased funding provided for higher education. The table below outlines the dollar amount provided per headcount student from fiscal years 1981-82 through 1985-86. The analysis includes the funding which would be allocated for student services based on the proposed formula.

STUDENT SERVICES
Dollar Amount per Headcount Student

Fiscal Year	UNR	UNLV	CCCC	TMCC	WNCC	NNCC
FY 1981-82 Actual	$151	$115	$75	$ 72	$ 85	$ 84
FY 1982-83 Actual	118	103	80	73	96	77
FY 1983-84 Actual	152	109	84	82	90	92
FY 1984-85 Actual	161	108	83	95	87	100
FY 1985-86 Operating Budget	191	110	86	97	94	82
FY 1985-86 Based on Proposed Formula	191	130	94	102	106	90
% Increase FY 1981-82	26.5%	13.0%	25.3%	41.7%	24.7%	7.1%

If the proposed formula had been implemented in FY 1985-86, the percentage increase would range from a 7.1 percent increase at NNCC to a 41.7 percent increase at TMCC. The increase in the consumer price index from July 1981 to June 1986 is 19.5 percent.

The second method the committee used to measure the increase or decrease in student services support was to compare this functional area as a percent of instruction funding for fiscal year 1981-82 through 1985-86.

STUDENT SERVICES
Student Services as a Percent of Instruction

Fiscal Year	UNR	UNLV	CCCC	TMCC	WNCC	NNCC
FY 1981-82 Actual	10.0%	10.0%	18.8%	28.2%	19.1%	25.3%
FY 1982-83 Actual	7.8%	9.7%	19.1%	26.5%	20.2%	25.8%
FY 1983-84 Actual	9.9%	8.7%	19.4%	25.0%	21.0%	23.4%
FY 1984-85 Actual	10.5%	7.9%	19.2%	27.2%	19.5%	22.9%
FY 1985-86 Operating Budget	9.9%	7.8%	19.6%	20.8%	19.5%	19.9%
FY 1985-86 Based on Proposed Formula	9.9%	9.2%	21.4%	22.0%	22.0%	21.8%

This table indicates, based on the proposed formula, that as a percent of instruction, student services declined at four campuses from FY 1981-82 to 1985-86 and increased at two campuses.

COMMITTEE RECOMMENDATION:

The committee recommends that the funding formula for student services proposed by the university system be adopted. The committee also recommends that the additional funding required to implement the formula be viewed as a goal to be achieved over a period of time to be determined by available funding each biennium.

3. Institutional Support

The proposed formula for institutional support is based on a percentage of the operating budgets administered by each campus (minus institutional support) plus an amount prorated for each institution's share of the operation of the business centers. As operating budgets increase, the percentage decreases due to economies of scale. The proposed formula is outlined below:

Total operating budgets from:	
0 - $15 million	15% (20% for NNCC)
$15 - $30 million	10%
Over $30 million	5%

The proposed formula would have the following budgetary impact on fiscal year 1985-86:

Universities

	UNR	UNLV
Total Operating Budgets	$53,604,000	$34,142,000
Total Institutional Support	(3,765,000)	(2,904,000)
Formula Budget (FY 1985-86)	$49,839,000	$31,238,000
First $15 million at 15%	$ 2,250,000	$ 2,250,000
Next $15 million at 10%	1,500,000	1,500,000
Over $30 million at 5%	992,000	62,000
Total Institutional Support	$ 4,742,000	$ 3,812,000
FY 1985-86 Institutional Support	$ 3,765,000	$ 2,904,000
Proration of Business Centers	561,000	537,000
Total	$ 4,326,000	$ 3,441,000
Increase in Funding	$ 416,000	$ 371,000

Community Colleges

	CCCC	TMCC	WNCC	NNCC
Total Operating Budgets	$9,535,000	$6,760,000	$3,268,000	$1,889,000
Total Institutional Support	(1,033,000)	(624,000)	(322,000)	(281,000)
Formula Budget (FY 1985-86)	$8,502,000	$6,136,000	$2,946,000	$1,608,000
First $15 million at 15% (20% for NNCC)	$1,275,000	$ 920,000	$ 442,000	$ 322,000
FY 85-86 Institutional Support	$1,033,000	$ 624,000	$ 322,000	$ 281,000
Proration of Business Centers	149,000	71,000	34,000	20,000
Total	$1,182,000	$ 695,000	$ 356,000	$ 301,000
Increase in Funding	$ 93,000	$ 225,000	$ 86,000	$ 21,000

The committee reviewed two other alternatives that would base institutional support funding on a formula. The first is a pro forma alternative which would alter the formula drivers resulting in no additional cost and the other alternative would adjust the formula drivers to a minimum level producing no reduction to any campus budget.

The change in funding (fiscal year 1985-86) for each campus based on the university proposal and the two pro forma alternatives is outlined below:

Campus	University Proposal	Pro Forma No Cost	Pro Forma No Campus Reduction
UNR	$ 416,000	$ 41,000	$ 45,000
UNLV	371,000	(4,000)	0
CCCC	93,000	(119,000)	0
TMCC	225,000	72,000	158,000
WNCC	86,000	12,000	53,000
NNCC	21,000	0	0
TOTAL	$1,212,000	$ 2,000	$256,000

The first alternative was requested by legislative committee members to illustrate how the formula could be implemented

without a large increase in funding. This alternative would require little or no additional funding and would adjust the formula proposed by UNS as outlined below:

> Universities and Community Colleges - The rate applied to the first $15 million would be changed from 15 percent to 12.5 percent (NNCC - 18.7 percent).

As indicated in the previous table, this alternative would provide additional funds for some campuses while funding would be decreased at other campuses. UNR would receive an additional $41,000 while funding at UNLV would decrease $4,000. At the community colleges, funding would decrease $119,000 at CCCC, while funding would increase $72,000 at TMCC and $12,000 at WNCC. Funding at NNCC would remain the same.

The second alternative would not impose a funding reduction on any campus and was provided to the committee by UNS as an option if the committee chose not to recommend a formula based on the university system's original proposal. The estimated cost of this alternative is $256,000 per year as outlined in the table on page 25. The formula proposed by UNS would be adjusted as follows:

1. Universities - The rate applied to the first $15 million would be changed from 15 percent to 12.5 percent.

2. Community Colleges - The rate applied to the first $15 million would be changed from 15 percent to 13.9 percent.

To measure to what extent institutional support funding had kept pace with increased funding in other areas of the budget, the committee reviewed institutional support as a percent of each campus budget (excluding institutional support) for FY 1981-82 through 1985-86. This analysis includes the funding which would be allocated for institutional support based on the proposed formula.

INSTITUTIONAL SUPPORT
INSTITUTION SUPPORT AS A PERCENT OF EACH CAMPUS BUDGET
(Excluding Institutional Support)

Fiscal Year	UNR	UNLV	CCCC	TMCC	WNCC	NNCC
FY 1981-82 Actual	8.3%	7.6%	10.2%	6.9%	7.6%	16.8%
FY 1982-83 Actual	7.6%	7.7%	10.2%	6.8%	8.2%	17.3%
FY 1983-84 Actual	8.6%	8.1%	10.3%	8.3%	8.6%	15.7%
FY 1984-85 Actual	8.0%	8.4%	10.0%	7.3%	8.6%	13.9%
FY 1985-86 Operating Budget*	8.2%	7.7%	10.9%	6.9%	7.3%	14.2%
FY 1985-86 Based on Proposed Formula*	9.4%	8.9%	12.0%	10.6%	10.3%	15.5%

*Percentage of institutional support to total campus budget with expenditures related to the System Controller's Office excluded.

As the table indicates, based on the proposed formula, in FY 1985-86 five campuses would have received a larger percentage of institutional support funding in relation to the total campus budget than in FY 1981-82, while only one campus (NNCC) would have received a smaller percentage.

COMMITTEE RECOMMENDATION:

The committee recommends that the funding formula for institutional support proposed by the university system be adopted. The committee also recommends that the additional funding required to implement the formula be viewed as a goal to be achieved over a period of time to be determined by the funding available each biennium.

4. Operation and Maintenance of Plant

The proposed formula for O&M of Plant would provide funding for janitorial, building maintenance, grounds maintenance and supervisory activities. Utilities are not included in the formula and would continue to be budgeted based on inflationary increases in fuel and the addition of new facilities.

The formula would be driven by factors which involve a specific number of positions based on the square footage of the buildings on campus and the number of acres of improved or maintained grounds on campus. The proposed formula is outlined below:

1. For janitorial, building maintenance and supervision -

   A. For campuses with over 12,000 headcount students

      The number of positions is determined by dividing the total square footage of buildings on campus by 10,500 square feet.

   B. For campuses with under 12,000 headcount students

      The number of positions is determined by dividing the total square footage of buildings on campus by 12,000 square feet.

2. For grounds maintenance -

   A. The number of positions is determined by dividing the total improved average on campus by 4.5 acres.

The estimated cost in FY 1985-86 to implement the proposed formula for O&M of Plant is approximately $947,000 and is outlined below:

Campus	Estimated Square Feet	Custodial Maintenance & Supervision	Grounds	Total	Current	Additional	Projected Cost
UNR	1,730,000	114.2	25.1	169.3	144.5	24.8	$643,000
UNLV	1,100,000	104.8	33.6	138.4	135.4	3.0*	80,000
CCCC	265,000	22.1	10.0	32.1	29.5	2.6	75,000
TMCC	137,000	11.4	5.6	17.0	14.0	3.0	90,000
WNCC	59,000	4.9	2.0[1]	6.9	6.0[2]	.9	18,000
NNCC	50,000	4.0	1.0[1]	5.0	3.5[2]	1.5	41,000
							$947,000

There was considerable discussion concerning the two-tiered formula factor used to determine the number of positions for janitorial, building maintenance and supervision activities.

The two-tiered factor provides one position for every 10,500 square feet of building space at campuses with enrollment over 12,000 headcount students while providing one position for every 12,000 square feet of building space at campuses with enrollment under 12,000 headcount students. Since UNLV is currently the only campus with more than 12,000 headcount students, the formula provides more funding for UNLV than other campuses.

University officials indicated that additional funding was needed at UNLV due to the buildings being used a much higher percentage of the time than buildings at other campuses. UNLV has approximately thirty buildings (1.1 million square feet) and serves just over 12,000 headcount students. UNR has approximately sixty buildings (1.7 million square feet) and serves just over 9,000 headcount students. However, the committee expressed a concern that while building usage at UNR may not be as high as UNLV, for the most part, the buildings are much older and, therefore, require more maintenance. University officials indicated that the funding required for increased maintenance of older buildings at UNR is being provided by the capital improvement budget passed during each legislative session. Each biennium UNR's highest priority is normally various campus improvements which are designed to provide maintenance for buildings and other capital projects on campus. Therefore, while this factor is not included in the formula, the increased maintenance needs due to UNR's older buildings is being taken in account.

The committee reviewed two other alternatives that would base O&M of Plant funding on a formula. The first is a pro forma alternative which would alter the formula drivers resulting in no additional cost and the other alternative would adjust the formula drivers to a minimum level producing no reduction to any campus budget.

The change in funding (fiscal year 1985-86) for each campus based on the university proposal and the two pro forma alternatives is outlined below:

Campus	University Proposal	Pro Forma No Cost	Pro Forma No Campus Reduction
UNR	$643,000	$ 420,000	$643,000
UNLV	80,000	(507,000)	0
CCCC	75,000	0	0
TMCC	90,000	48,000	51,000
WNCC	18,000	8,000	6,000
NNCC	41,000	43,000	33,000
TOTAL	$947,000	$ 12,000	$733,000

The first alternative was requested by legislative committee members to illustrate how the formula could be implemented without a large increase in funding. This alternative would require little or no additional funding and would adjust the formula proposed by UNS as follows:

Universities and Community Colleges - The number of square feet utilized for determining the number of janitorial, building maintenance and supervisory positions would be changed from 12,000 square feet to 12,310 per square feet. For grounds maintenance 5.6 acres per position would be utilized.

As the previous table indicates, this alternative would provide additional funds for some campuses while decreasing funds in other campuses. UNR would receive an additional $420,000 while funding for UNLV would decrease $507,000. At the community colleges, funding would increase $48,000 at TMCC, $8,000 at WNCC and $43,000 at NNCC.

The second alternative would not impose a funding reduction on any campus budget and was provided to the committee by UNS as an option if the committee chose not to recommend a formula based on the university system's original formula proposal. The estimated cost of this alternative is $733,000 per year and would adjust the formula proposed by UNS as follows:

1. Universities - UNR - 12,000 square feet per position would be utilized for janitorial, building maintenance and supervisory activities.

UNLV - 10,805 square feet per position would be utilized.

2. Community Colleges - 13,590 square feet per position would be utilized.

COMMITTEE RECOMMENDATION:

The committee recommends that the formula for operation and maintenance of plant proposed by the university system be adopted. The committee also recommends that the additional funding required to implement the formula be viewed as a goal to be achieved over a period of time to be determined by the funding available each biennium.

Priority #2 - In Priority #2 the university system has requested enhancements to the current formula utilized to fund the instructional component of the UNS budget. Each of these formula enhancements is outlined below:

1. Enhance Student/Faculty Ratios

   A. The university of Nevada System proposed that student/faculty ratios for non-engineering or specialized programs (nursing, dental assistants, dental hygiene, etc.) be reduced to levels authorized prior to 1981 when the ratios were raised by 10 percent due to the state's financial condition. For UNR, UNLV, WNCC and NNCC, the student/faculty ratio would be reduced from 1 faculty member for every 21 students (21:1) to 1 faculty member for every 20 students (20:1). AT CCCC and TMCC the student/faculty ratios would be reduced from 25.2:1 to 24:1.

   B. The UNS proposed that the student/faculty ratio for developmental courses at the community colleges be reduced to 15:1. Developmental programs are designed to help students who are under prepared succeed in college and give them the opportunity to achieve academic or occupational goals. Individual instruction is necessary which requires a reduced student/faculty ratio.

It should be noted that student/faculty ratios were enhanced by the 1985 legislature. Overall student/faculty ratios were reduced at UNR and UNLV from 21:1 to 19:1. At CCCC and TMCC student/faculty ratios were reduced from an overall ratio of 25:1 to approximately 21:1. Outlined below are the actions taken by the 1985 legislature to enhance student/faculty ratios.

	1983-85 Biennium	1985-87 Biennium	
	Approved	University Request	Legislature Approved
UNR and UNLV			
Undergraduate and Graduate	22.00:1	20.00:1	21.00:1
Nursing	8.25.1	7.50:1	7.50:1
Engineering		15.00:1	15.00:1
CCCC			
Regular	26.40:1	24.00:1	25.20:1
Rural	13.20:1	12.00:1	12.00:1
Dental Hygiene	6.60:1	6.00:1	6.00:1
Nursing	11.00:1	10.00:1	10.00:1
Vocational/Technical		18.00:1	18.00:1
TMCC			
Regular	26.40:1	24.00:1	25.20:1
Dental Hygiene and Radiology	14.00:1	14.00:1	14.00:1
Nursing	11.00:1	10.00:1	10.00:1
Vocational/Technical		18.00:1	18.00:1
Engineering Technology		18.00:1	18.00:1
WNCC and NNCC			
Regular	22.00:1	20.00:1	21.00:1
Rural	13.20:1	12.00:1	12.00:1
Nursing	11.00:1	10.00:1	10.00:1
Vocational/Technical		18.00:1	18.00:1

The cost of reducing student/faculty ratios (except engineering related or specialized programs such as nursing) from 21:1 to 20:1 at UNR, UNLV, WNCC and NNCC and from 25.2:1 to 24:1 at CCCC and TMCC is estimated to cost $870,000 per year. The cost of lowering student/faculty ratios to 15:1 at the community colleges for developmental courses is estimated at $160,000 per year.

COMMITTEE RECOMMENDATION:

The committee recommends that student/faculty ratios for non-engineering related or specialized programs be reduced from 21:1 to 20:1 at UNR, UNLV, WNCC, and NNCC and from 25.2:1 to 24:1 at CCCC and TMCC. Also student/faculty ratios at the community colleges for development programs should be reduced to 15:1. However, the committee considers this recommendation as a goal to be achieved over a period of time to be implemented dependent on available funding each biennium.

2. Full-Time/Part-Time Faculty Ratios - Community Colleges

The university system proposed that 70 percent of the faculty authorized by the legislature for each community college be funded on a full-time basis. The remaining 30 percent of the faculty would be funded on a part-time basis. This recommendation was based on a report of comparative financial statistics for community colleges for fiscal year 1983-84 which indicated that nationwide 30 percent of instructional faculty were employed on a part-time basis.

Currently, except at NNCC where the full-time/part-time faculty ratio is 54 percent to 46 percent, the community colleges are provided a "core" full-time faculty with the remaining faculty positions allocated 45 percent full-time and 55 percent part-time. In FY 1985-86, the actual full-time/part-time ratio is 51 percent full-time/49 percent part-time at CCCC, 57 percent full-time/43 percent part-time at TMCC, and 49 percent full-time/51 percent part-time at WNCC.

The estimated cost (FY 1985-86) of increasing the full-time/part-time ratio to 70 percent full-time/30 percent part-time is outlined below:

Campus	Amount
CCCC	$ 860,000
TMCC	336,000
WNCC	295,500
NNCC	86,500
TOTAL	$1,578,000

COMMITTEE RECOMMENDATION:

The committee recommends that the full-time/part-time faculty ratio be enhanced to 70 percent full-time/30 percent part-time. Also as this recommendation is implemented, the "core" faculty concept of providing full-time faculty should be abandoned. The committee considers this recommendation as a goal to be achieved over a period of time with implementation dependent on funding available each biennium.

3. Graduate Assistants

Funding for graduate assistants is currently made in a lump-sum amount for both UNR and UNLV. UNR was provided $548,887 and UNLV was provided $527,250 for graduate assistants in fiscal year 1985-86.

The proposed formula would provide one graduate assistantship for every five FTE graduate students. The formula would also provide one graduate assistantship for every 3.33 FTE doctoral students. The proposed salary for graduate assistants is recommended to increase from approximately $5,500 per year to $8,900 per year. Funding for letters of appointment (part-time faculty) would be eliminated. The proposed formula is outlined below.

	UNR	UNLV
Annualized 1985-86 Graduate FTE Enrollment	931	670
Proposed Formula Factor	*/.5	*/.5
Authorized Graduate Assistants	186	134
Doctoral Students	136	18
Proposed Formula Factor	*/.10	*/.10
Doctoral Graduate Assistants	13.6	1.8
Total Graduate Assistants	199.6	135.8
Proposed Salary	$ 8,900	$ 8,900
Total Cost	1,776,440	1,208,620
Less: FY 1985-86 Budgeted Amounts*	927,267	638,042
Net Cost of Proposed Formula	$ 849,173	$ 570,578

*Includes funding authorized for letters of appointment (part-time faculty).

COMMITTEE RECOMMENDATION:

The committee recommends that the formula proposed by the university system to determine funding for graduate assistants be adopted. This recommendation would include the elimination of funding for letters of appointment (part-time faculty). The committee views this recommendation as a goal to be achieved over a period of time with implementation to be determined by the availability of funds each biennium.

4. Classified Support Ratio - Community Colleges

This formula factor determines the number of classified employees in the instructional component of the budget that provide support to faculty. In the 1983-85 biennium at the community colleges, this ratio was funded at one classified position for every 6.6 faculty (6.6:1). The 1985 legislature enhanced this ratio to 6:1. The university system proposed enhancing the classified support ratio for the community colleges to 5:1.

The estimated cost (FY 1985-86) of enhancing the instructional classified support ratio to 5:1 for each community college is outlined below:

CCCC	$116,000
TMCC	79,000
WNCC	42,000
NNCC	18,000
TOTAL	$255,000

COMMITTEE RECOMMENDATION:

The committee has endorsed as a goal the enhancement of the instructional classified support ratio to 5:1. Implementation of this proposal is recommended to be determined by availability of funding each biennium.

Priority #3 - The recommendations in Priority #3 represent those areas outside of support services and instruction which the UNS proposed be funded based on a formula.

1. Equipment Replacement

Funding for equipment replacement has historically been provided based on the state's financial condition. The 1985 legislature appropriated approximately $10.5 million to UNS for equipment replacement. However, the 1983 Legislature, due to the state's tight financial condition, did not appropriate funds to UNS in the 1983-85 biennium for equipment replacement.

A total of six states utilize a formula for funding of equipment replacement. The two most common methods are: 1) price adjusted straight-line depreciation expense; and 2) percentage of the year-end equipment inventory. The percentage ranges from 5 to 10 percent.

The first method is utilized by the State of California. In the California formula the year-end equipment inventory is adjusted by the annual producer price index and estimated salvage value per inventory item. Straight-line depreciation expense is calculated by multiplying the net price adjusted item cost by the depreciation rate established at the time of acquisition.

The second method provides funding based on a percentage of an institution's year-end inventory value and is utilized to fund equipment replacement in the subsequent fiscal year.

The university system proposed a formula which would provide annually 5 percent of the UNS year-end equipment inventory adjusted by the Capital Equipment Index to fund the cost of equipment replacement. The estimated annual cost (FY 1985-86) is outlined below:

Year-end inventory 6/30/85	$48,787,581
Capital Equipment Index 1985	2.7%
Price Adjusted Inventory	$50,104,846
Annual equipment replacement	5%
Estimated Annual Cost	$ 2,505,242

COMMITTEE RECOMMENDATION:

The committee recommends that the formula for equipment replacement proposed by the university system be adopted. However, the committee recommends that full funding of the

formula should be viewed as a goal to be achieved over a period of time to be implemented dependent on available funding each biennium.

2. Library Acquisitions

A total of eighteen states currently utilize a formula to determine funding for library acquisitions and/or support staff. The university system proposed the following formulas to determine book acquisition funding at the universities and community colleges.

A. Universities - The university system proposed the following formula for book acquisitions at UNR and UNLV, but later recommended that the legislature continue to fund this item on an incremental basis. Since the committee did make a recommendation regarding a formula for funding of book acquisitions at each university, it is important to review the formula originally proposed by the UNS:

The university system indicated that a formula for book acquisitions should recognize the impact of the number of students, number of faculty, category of the institution and level of programs. The formula originally proposed by the UNS was adapted from the Oregon Department of Higher Education and represents an update of the Clapp-Jordan formula. The following tables outline the factors that are utilized in calculating the funding recommended for UNR and UNLV.

UNIVERSITY OF NEVADA, RENO
ANNUAL LIBRARY COLLECTION ACQUISITION CALCULATION
OREGON DEPARTMENT OF HIGHER EDUCATION FORMULA
(Adopted 1984)

FORMULA RATE	#FTE/DEGREE	FORMULA CALCULATION
Base Number of Volumes @ 85,000		85,000
Volumes Per Faculty @ 125	567 (Note 1)	70,875
Volumes Per Student @ 20	7,056 (Note 2)	141,120
Volumes Per Baccalaureate or Associate Degree @ 610	72 (Note 3)	43,920
Volumes Per Masters With No Doctoral Program @ 10,000	44	440,000
Volumes Per Masters With Doctoral Program @ 3,750	11	41,250
Volumes Per Doctoral Program @ 31,250	17	531,250
Total Number of Volumes		1,353,415
Annual Acquisition Rate		5%
Annual Acquisitions		67,671
Estimated Acquisition Cost		$ 30 (Note 4)
Annual Acquisition Request		$2,030,130

Source:

Note 1. 1985-86 Budgeted Faculty, Instruction, Statewide Programs - Research, Medical School, Agricultural Experiment Station and Cooperative Extension.

Note 2. 1985-86 Budgeted Student Enrollment.

Note 3. Degree programs obtained from Ms. Janice Brown, Research Analyst, Institutional Analysis, UNR.

Note 4. The average price for a North American academic book in 1983/84 obtained from "Bowker Annual of Library & Book Trade Information", 1985 edition.

UNIVERSITY OF NEVADA, LAS VEGAS
ANNUAL LIBRARY COLLECTION ACQUISITION CALCULATION
OREGON DEPARTMENT OF HIGHER EDUCATION FORMULA
(Adopted 1984)

FORMULA RATE	#FTE/DEGREE	FORMULA CALCULATION
Base Number of Volumes @ 85,000		85,000
Volumes Per Faculty @ 125	369 (Note 1)	46,125
Volumes Per Student @ 20	6,991 (Note 2)	139,820
Volumes Per Baccalaureate or Associate Degree @ 610	52 (Note 3)	31,720
Volumes Per Masters With No Doctoral Program @ 10,000	26	260,000
Volumes Per Masters With Doctoral Program @ 3,750	5	18,750
Volumes Per Doctoral Program @ 31,250	5	156,250
Total Number of Volumes		737,665
Annual Acquisition Rate		5%
Annual Acquisitions		36,883
Estimated Acquisition Cost		$ 30 (Note 4)
Annual Acquisition Request		$1,106,490

Source:

Note 1. 1985-86 Budgeted Faculty, Instruction, Statewide Programs - Research Faculty.
Note 2. 1985-86 Budgeted Student Enrollment.
Note 3. Degree programs obtained from Mrs. Kari Coburn, Principal Institutional Analyst, Institutional Analysis and Planning, UNLV.
Note 4. The average price for a North American academic book in 1983/84 obtained from "Bowker Annual of Library & Book Trade Information", 1985 edition.

The additional funds required (FY 1985-86) to implement this formula for UNR and UNLV is outlined below:

Campus	Formula Estimate	FY 1985-86 Budgeted	Est. Additional Cost
UNR	$2,030,130	$1,101,744	$928,386
UNLV	1,106,490	1,102,500	3,990
TOTAL			$932,376

After reviewing this formula for the committee, the university system recommended that the committee not consider a book acquisition formula for the two universities. At the committee's work session this issue was discussed which resulted in the following recommendation.

COMMITTEE RECOMMENDATION:

The committee recommends that the book acquisition formula as proposed by the university system be applied to both UNR and UNLV and that the total funding which is generated by the formula be equally divided between the two campuses. However, the committee recommends that full funding of the formula be viewed as a goal to be achieved over a period of time to be implemented as funding is available each biennium.

B. Community Colleges - The university system proposed that the formula to determine funding for book acquisitions at the community colleges be based on the Learning Resource Center standards for college libraries formula. The following table outlines the factors that are utilized in calculating the funding recommended at each community college.

UNIVERSITY OF NEVADA SYSTEM COMMUNITY COLLEGES
LEARNING RESOURCE CENTER COLLECTION ACQUISITION CALCULATION
STANDARDS FOR COLLEGE LIBRARIES FORMULA
(Adopted 1972)

Collection Size

FTE Enrollment	Written Materials: Periodical Subscriptions	Written Materials: Printed Materials	Recorded Materials: Films & Videotapes	Recorded Materials: Other Recorded Material	Other Materials	Total Collection Size
Under 1,000	300	30,000	125	1,350	350	32,125
1,000-3,000	500	50,000	350	3,200	1,200	55,250
3,000-5,000	700	70,000	700	5.350	2.350	79,100
5,000-7,000	800	85,000	1,250	8,500	4,500	100,100
Additional each 1,000 FTE over 7,000	30	12,000	150	405	305	12,890

Formula Application

Campus	1985-86 Budgeted FTE Enrollment	Collection Size	Annual Acquisition Rate @ 5%	Average Cost	Formula Acquisition Request
Clark County Community College	3,604	79,100	3,955	$30	$118,650
Northern Nevada Community College	445	32,125	1,606	30	48,188
Truckee Meadows Community College	2,456	55,250	2,763	30	82,875
Western Nevada Community College	1,016	32,125	1,606	30	48,188

The estimated additional cost (FY 1985-86) to implement the proposed formula is outlined below:

Campus	Formula Estimate	FY 1985-86 Budgeted	Estimated Additional Cost
CCCC	$118,650	$56,807	$ 61,843
TMCC	82,875	32,688	50,187
WNCC	48,188	36,146	12,042
NNCC	48,188	35,280	12,908
TOTAL			$136,980

COMMITTEE RECOMMENDATION:

The committee recommends that the book acquisition formula proposed by the university system be adopted. However, the committee recommends that full funding of the formula should be viewed as a goal to be achieved over a period of time to be implemented as funding is available each biennium.

3. New Position Equipment Allotment

The university system proposed that specific funding be provided to equip new positions approved by the legislature. The 1985 legislature allocated $1,605 to equip administrative positions and $2,179 to equip clerical positions for those state agencies which were authorized new positions. The UNS purchases equipment within the operating category and is not granted a specific amount for each new position authorized.

The university system was authorized 29.08 new professional positions and 28.23 new classified positions in FY 1985-86. Assuming one-half of the new classified positions were clerical employees, a total of $100,085 would have to be allocated to the university system to equip new positions in FY 1985-86.

COMMITTEE RECOMMENDATION:

The committee recommends that specific funds should be provided to equip new positions authorized by the legislature equal to the amount provided to other state agencies. The committee also recommends that the cost of this recommendation be partially offset by eliminating funds provided in the operating category for this purpose.

4. Year-Round Funding

Currently, the state provides financial support for only the fall and spring semesters at each campus. Courses offered during the summer session are currently self-supporting and financed totally through student fees. The university system has proposed that the state support the costs of the summer session at each campus which would allow the university system to offer many more courses than are currently available on a self-supporting basis.

The formula proposed by the university system for state support of the summer session is adapted from the current instructional formula utilized for the fall/spring semesters. The modifications recommended in the calculation of summer school funding are listed below:

1. At UNR and UNLV the number of FTE faculty are reduced by 40 percent. This is due to 40 percent of the faculty workload in the regular school year being devoted to research and public service which is not required during the summer months.

2. Salary and operating amounts are calculated at 50 percent of the amounts used for the fall/spring semesters.

3. Full-time/part-time faculty ratios for community colleges would be the same as those used during the regular school year.

4. Classified support is not included since the current instructional formula funds these positions on a twelve-month basis.

Based on these assumptions, the estimated cost (FY 1985-86) to the state general fund for year-round funding is outlined below:

Total estimated cost	$2,403,320
Estimated student revenue	(1,153,956)
Estimated net cost to GF	$1,249,364

COMMITTEE RECOMMENDATION:

The committee recommends to endorse as a goal state support for the summer session contingent on sufficient funds being available for that purpose.

VII. REVIEW OF POTENTIAL FUNDING SOURCES TO ENHANCE FUNDING OF HIGHER EDUCATION

The committee reviewed the University of Nevada System's enhanced role in Nevada's present and future economic development program. Testimony received from the business community supported enhancement of the community colleges' efforts in strengthening vocational education and training. The committee was told that

industry seeking to relocate in Nevada considers the availability of skilled labor. Support was given for a strong university system which will graduate people with technical skills needed by new industry considering relocating in Nevada. Testimony indicated that industry supports increased funding for the university system as well as increased tax dollars if necessary as long as the increase in funding is used to help train a labor force which will be needed by those companies located or seeking to locate in Nevada.

In an effort to outline the potential tax sources which would be available to finance the increase in funding necessary to support the enhanced role of the University of Nevada System in the area of economic development, chairman Bob Thomas requested the fiscal analysis division to develop a document outlining some of the options available to increase state general fund revenues. It was requested that this report include an explanation of each tax, additional revenue estimated to be generated by the tax (or increase of existing tax) the advantage and/or disadvantage of imposing each tax and the comparison of the tax rates in the thirteen western states for each tax source. All of Nevada's existing state general fund taxes were reviewed as well as a number of taxes imposed by other states including personal and corporate income tax, sales tax on services, lottery, business inventory tax, tax on oil production, utility tax and state pick-up tax. A copy of An Analysis of Selected Tax Sources prepared by the fiscal analysis division is included as Appendix F and was provided to all committee members.

While there was committee discussion on tax sources which could be considered to finance increased funding for higher education, the committee did not make any recommendations in this area.

APPENDIX A

FORMULA UTILIZED TO DETERMINE INSTRUCTIONAL FUNDING FOR UNIVERSITY SYSTEM

COMMITTEE STUDYING THE FUNDING
OF HIGHER EDUCATION
OUTLINE OF CURRENT FUNDING FORMULA IN NEVADA

The University of Nevada System (UNS) has used a formula to calculate the amount of support provided for instructional activities for over a decade. The formula concept was adopted in 1969 and was reaffirmed by a legislative interim study committee in 1975. While there have been some minor changes made over the years, the same basic formula used to determine funding for instructional activities still exists today.

For budget purposes, the University of Nevada System is divided into a number of appropriation areas (University of Nevada, Reno; University of Nevada, Las Vegas; Truckee Meadows Community College; Clark County Community College, Computing Center, etc.), each of which is broken down into the functional areas of instruction, academic support, institutional support, student services and operation and maintenance of plant. As stated previously, the current funding formula determines the support only for the instructional function.

The current formula is based on the number of full-time equivalent students (FTE) enrolled or projected to be enrolled at each campus. The number of faculty positions is determined by dividing the number of FTE students by the authorized student/faculty ratio. For example, if a campus was projected to enroll 6,000 FTE students with a student/faculty ratio of 20:1, a total of 300 faculty positions would be authorized. Each component of the existing funding formula is outlined below:

1. Projected student enrollment - The FTE student enrollment is projected up to two years in advance for each campus. For example, during the 1985 Legislative Session, student enrollment was projected for fiscal year 1985-86 (Fall 1985 - Spring 1986 Semesters) and fiscal year 1986-87 (Fall 1986 - Spring 1987 Semesters). The definition of a FTE student is a student enrolled for 30 undergraduate credits per year or 16 graduate credits per year. The projected FTE student enrollment for each campus during the 1985-87 biennium is listed below.

Campus	Actual 1982-83	1983-84	1984-85	Projected 1985-86	1986-87
UNR	6,810	6,831	6,802	6,864*	6,966
UNLV	7,091	7,021	6,867	6,991	7,200
CCCC	3,825	3,513	3,429	3,604	3,712
NNCC	449	443	417	445	450
WNCC	964	965	972	1,016	1,077
TMCC	2,488	2,463	2,270	2,456*	2,523

*77 FTE Engineering Technician students transferred from UNR to TMCC.

2. Student/Faculty Ratio: This ratio determines the number of full-time faculty authorized based on the FTE student enrollment projected at each campus. The number of faculty positions is determined by dividing the number of FTE students by the authorized student/faculty ratio.

The 1981 Legislature, due to the tight financial condition of the state, increased student/faculty ratios by 10 percent. At both universities, the student/faculty ratios were increased from 20:1 to 22:1. These ratios remained until the legislature enhanced the student/faculty ratios during the 1985 Session.

Outlined below are the student/faculty ratios as approved by the 1983 Legislature, the University System request for the 1985-87 biennium and the action taken by the 1985 Legislature.

Student-Faculty Formula Funding Ratio Comparison*

	1983-85 Biennium	1985-87 Biennium	
	Approved	University Request	Legislature Approved
UNR and UNLV			
Undergraduate and Graduate	22.00:1	20.00:1	21.00:1
Nursing	8.25:1	7.50:1	7.50:1
Engineering		15.00:1	15.00:1
Classified Support Positions	5.50:1	5.00:1	5.00:1
CCCC			
Regular	26.40:1	24.00:1	25.20:1
Rural	13.20:1	12.00:1	12.00:1
Dental Hygiene	6.60:1	6.00:1	6.00:1
Nursing	11.00:1	10.00:1	10.00:1
Vocational/Technical		18.00:1	18.00:1
Classified Support Positions	6.60:1	5.00:1	6.00:1
TMCC			
Regular	26.40:1	24.00:1	25.20:1
Dental Assistant and Radiology	14.00:1	14.00:1	14.00:1
Nursing	11.00:1	10.00:1	10.00:1
Vocational/Technical		18.00:1	18.00:1
Engineering Technology		18.00:1	18.00:1
Classified Support Positions	6.60:1	5.00:1	6.00:1
WNCC and NNCC			
Regular	22.00:1	20.00:1	21.00:1
Rural	13.20:1	12.00:1	12.00:1
Nursing	11.00:1	10.00:1	10.00:1
Vocational/Technical		18.00:1	18.00:1
Classified Support Positions	6.60:1	5.00:1	6.00:1

*University student/faculty ratios have been reduced from an overall ratio of 21:1 to approximately 19:1. For the two large community colleges (Truckee Meadows and Clark County) student/faculty ratios have been reduced from an overall ratio of 25:1 to approximately 21:1.

The method of calculating the number of faculty is different for universities and community colleges. Both methods are outlined below:

Universities - The projected FTE student enrollment is divided by the student/faculty ratio in each program. For example at UNLV in FY 1985-86, the number of full-time faculty is computed as follows:

Program	Projected FTE Enrollment	Student Faculty Ratio	Full-Time Faculty
Engineering Related	968	15:1	64.54
Other Undergraduate & Graduate	5,854	21:1	278.77
Nursing	169	7.5:1	22.54
Total	6,991		365.85

Community Colleges - The projected FTE student enrollment is divided by the student/faculty ratio in each program. Next, the number of "Core Positions" is determined. "Core positions" represent the full-time faculty necessary to support specific programs regardless of the number of students participating in the program. The core position component was initiated during the 1981-83 biennium and the number of core positions at each campus is negotiated between the University System and the Legislature. After the "core positions" are subtracted from the total faculty positions authorized, the remaining faculty are distributed on a ratio of 45 percent full-time and 55 percent part-time at Clark County, Truckee Meadows and Western Nevada Community College (at Northern Nevada Community College, faculty are distributed on a ratio of 54 percent full-time and 46 percent part-time with no "core positions" authorized). For example at Truckee Meadows Community College in FY 1985-86, the number of full-time and part-time faculty is computed as follows:

Program	Projected FTE Enrollment	Student Faculty Ratio	Total Faculty
Vocational/Technical	695	18:1	38.62
Other Regular Enrollment	1,643	25.2:1	65.16
Dental/Radiological Tech.	37	14:1	2.64
Nursing	82	10:1	8.20
Total	2,456		114.62

Faculty Distribution

Authorized Core Positions (Full-time Faculty)	
Nursing	7.00
Developmental	6.00
Allied Health	3.00
Radiological Tech.	2.00
Dental Assistance	1.00
Engineering Tech.	5.57
Total Core Positions	24.57

Allocation of remaining faculty	
Full Time - 45%	40.52
Part Time - 55%	49.53
Total Faculty	114.62

3. Faculty Salaries - This represents the average salary level for faculty members at each campus. This average is then multipled by the number of faculty generated by the formula which determines the total funding available for payment of faculty salaries. For example, if the formula provided for 300 faculty and the average salary level was $30,000, a total of $9 million would be authorized for payment of faculty salaries.

4. Letters of Appointment (UNR & UNLV only) - represents funding for part-time faculty. This provides universities the ability to meet unexpected requests for additional sections of a specific course or provide a temporary replacement for a faculty member who has experienced an extended illness. Letters of Appointment could also include bringing in leaders in professional fields as a supplement to the teaching of regular academic faculty.

   The amount provided for Letters of Appointment usually is determined based on the previous year's allocation plus an amount to offset the effect of inflation.

5. Teacher Assistants (TMCC and NNCC only) - When student fees were increased for the Fall 1983 Semester, a portion of the additional revenue was utilized to fund teacher assistant positions at Truckee Meadows and Northern Nevada Community College.

   Teacher assistants aid instructors in a variety of ways including grading of papers, tutoring of students who require individual attention, as well as test grading and attendance keeping.

   Funding is usually determined based on the previous year's allocation plus additional funds related to salary increases granted to professional or classified employees.

6. Graduate Assistants (UNR & UNLV only) - A full-time graduate assistant is assumed to work approximately half-time and is compensated by a salary and grant-in-aid for registration and tuition. The current salary of a graduate assistant is $5,000 - $6,000 per year (nine months salary) depending on experience.

Funding is usually determined based on the previous year's allocation plus additional funds related to salary increases granted to professional or classified personnel.

7. Classified support positions - The number of classified positions authorized to support the instructional component of each campus budget is determined as follows:

   A. Universities - One classified position is budgeted for every five faculty positions. This figure is multiplied by the average compensation for classified positions at each campus.

   B. Community Colleges - One classified position is budgeted for every six faculty positions. This figure is multiplied by the average compensation for classified positions at each campus.

8. Wage position support - Wage positions represent hourly employees, many of whom are students. A dollar amount is provided per faculty position. For example, at UNLV, $396 per faculty position was provided in FY 1985-86. Therefore, a total of $144,750 ($396 x 365.86 faculty positions) was approved for wages in FY 1985-86.

9. Operating expenses - In-state travel, supplies, equipment and other operating expenses are charged to the "operating" line item. A dollar amount is provided per faculty position. For example at TMCC, $2,104 per faculty position was provided in FY 1985-86. Therefore, a total of $241,160 ($2,104 x 65.09 faculty positions) was approved for operating support in FY 1985-86.

10. Merit Pool - Approved for the first time by the 1985 Legislature, an amount equal to 2.5% of the total professional salary amount within the instruction function is set aside to provide merit salary adjustments to teaching faculty. Non-teaching professional positions are not eligible for these merit funds. The amounts are not included in each campus budget but are pooled and set aside in a separate budget account. The Board of Regents then distribute the necessary funds required by each campus.

Two examples are provided illustrating how the formula is utilized to determine the amount of instructional funding. Exhibit 1 outlines the amount provided to the University of Nevada, Las Vegas for instructional activities during the current fiscal year (FY 1985-86). Exhibit 2 outlines instructional funding provided to Truckee Meadows Community College for FY

1985-86. In each exhibit the first page outlines the projected FTE enrollment and the student/faculty ratios utilized to determine the number of faculty positions. The second page outlines how the total funding is calculated once the number of faculty has been determined. The last column entitled "Formula Factor Used" is the key in determining the dollars provided in each of the components that comprise the instruction function.

The major functional areas, excluding the instructional component, include academic support, student services, institutional support and operation and maintenance of plant. Funding for each of these components of the budget is not determined by a formula but is negotiated separately each biennium. The activities included in each of these functional areas are described below:

1. Academic Support - represents all academic activities that directly support instruction. This functional area includes the Vice President for Academic Affairs, the Deans of each college and Library operations.

2. Student Services - represents all activities related to students outside the classroom. This functional area includes admissions and records, academic advisement, counseling and minority affairs.

3. Institutional Support - represents activities related to the general executive and administrative offices that serve the institution as a whole. This functional area includes the president's office, the business office, alumni relations and campus police.

4. Operation and Maintenance of Plan - represents all activities related to administration, maintenance and custodial care of the physical plant, grounds, utilities and all other activities associated with the day-to-day operation of the physical plant and its maintenance.

The following table outlines the funding approved by functional area for the University of Nevada, Las Vegas in FY 1985-86 (amounts do not include salary increases approved by the 1985 Legislature which are budgeted separately).

Functional Area	FTE Positions Professional	Classified	Dollars
Instruction	365.85	73.17	$15,896,893
Research			7,689
Academic Support	36.33	60.00	4,115,623
Student Services	16.32	33.00	1,327,031
Institutional Support	20.25	49.67	2,671,940
Operation and Maintenance of Plant	2.00	133.40	5,984,688
Scholarships			439,058
Total UNLV	440.75	349.24	$30,442,922

SB256/O

EXHIBIT #1

University of Nevada, Las Vegas
Instruction Function
Legislative Approved
FY 1985-86

Enrollment Area	Student/Faculty Ratio	Projected FTE Enrollment	FTE Faculty
Engineering Related	15:1	968	64.54
Other Undergraduate and Graduate	21:1	5,854	278.77
Nursing	7.5:1	169	22.54
Total		6,991	365.85
Classified Support Positions	5:1		73.17

University of Nevada, Las Vegas
Instruction Function
Legislative Approved
FY 1985-86

	FTE	Dollars	Formula Factor Used
Professional Positions (Faculty)			
Existing Positions	358.58	$10,914,991	$30,439 - Average Compensation
New Positions	7.27	211,557	29,100 - Average Compensation
Subtotal	365.85	11,126,548	
Fringe Benefits		1,646,343*	
Total		$12,772,891	
Letters of Appointment			
Salary Costs		$334,190	FY 84-85 Budget+5% for Inflation
Fringe Benefits		4,010	1.2% of Salary (SIIS)
Total		$338,200	
Graduate Assistants			
Salary Costs		$527,250	FY84-85 Budget+11% for Salary Increase
Fringe Benefits		6,328	1.2% of Salary (SIIS)
Total		$533,578	
Classified Positions			
Existing Positions	66.50	$1,116,269	$16,786 - Average Compensation
New Positions	6.67	74,577	11,181 - Average Compensation
Subtotal	73.17	1,190,846	
Fringe Benefits		228,925*	
Total	73.17	$1,419,771	
Wages			
Salary Costs		$144,750	$396 per Faculty Position (FY84-85 + 6.5%)
Fringe Benefits		1,734	1.2% of Salary (SIIS)
Total		$146,484	
Operating		$685,969	$1,875 per Faculty Position (FY84-85 + 4%)

Instruction Function Total

	FTE	Dollars
Professional Positions (Faculty)	365.85	$11,126,548
Graduate Assistants		527,250
Letters of Appointment		334,190
Classified Positions	73.17	1,190,846
Fringe Benefits		1,887,340
Wages		144,750
Operating		685,969
Total	439.02	$15,896,893

*Fringe Benefits - $1,550 per FTE position + 9.7% of gross salary.

SB256/UNLV

EXHIBIT #2

Truckee Meadows Community College
Instruction Function
Legislative Approved
FY 1985-86

Enrollment Area	Student/Faculty Ratio	Projected FTE Enrollment	Total Faculty
Vocational/Technical	18:1	695	38.62
Other Regular Enrollment	25.2:1	1,642	65.16
Dental/Radiological Tech	14:1	37	2.64
Nursing	10:1	82	8.20
Total		2,456	114.62

Faculty Distribution:

Authorized Core Positions			
Nursing			7.00
Developmental			6.00
Allied Health			3.00
Radiological Tech			2.00
Dental Assistant			1.00
Engineering Tech			5.57
			24.57
Allocation of remaining faculty			
Full-time - 45%			40.52
Part-time - 55%			49.53
Total Faculty - TMCC			114.62
Classified Support Positions	6:1		19.10

Truckee Meadows Community College
Instruction Function
Legislative Approved
FY 1985-86

Faculty	FTE	Dollars	Formula Factor Used
Full-time			
Existing Positions	60.00	$1,610,945	
New Positions	5.09	135,236	$26,849 - Average Compensation
Subtotal	65.09	$1,746,181	$26,569 - Average Compensation
Fringe Benefits		270,769*	
Total Full-time		$2,016,450	
Part-time			
Salary Costs	49.53	$515,261	$10,403 - Average Compensation
Fringe Benefits		7,669	1.2% (SIIS) + $30 per position
Total Part-time	49.53	$522,930	
Teacher Assistants			
Salary Costs		$171,916	FY84-85 Budget + 11% for Salary Increase
Fringe Benefits		2,064	1.2% of Salary (SIIS)
Total		$173,980	
Classified Positions			
Existing Positions	16.94	$257,209	$15,184 - Average Compensation
New Positions	2.16	34,810	$16,116 - Average Compensation
Subtotal	19.10	$292,019	
Fringe Benefits		57,931	
Total	19.10	$349,950	
Wages			
Salary Costs		$41,718	$364 Per Faculty Position
Fringe Benefits		501	
Total		$42,219	
Operating		$241,160	$2,1 4 Per Faculty Position

Instruction Function Total

	FTE	Dollars
Professional Positions (Faculty)	114.62	$2,261,442
Teacher Assistants		171,916
Classified Positions	19.10	292,019
Fringe Benefits		338,434
Wages		41,718
Operating		241,160
Total	133.72	$3,346,689

*Fringe Benefits - $1,550 per FTE position + 9.7% of gross salary.

SB256/TMCC

APPENDIX B

UNIVERSITY OF NEVADA SYSTEM
POSITION PAPER ON FUNDING FORMULA RECOMMENDATIONS

University of Nevada System

OFFICE OF THE CHANCELLOR
405 Marsh Avenue Reno Nevada 89509
702 784-4901

COMMITTEE TO STUDY FUNDING FOR HIGHER EDUCATION

UNIVERSITY OF NEVADA SYSTEM POSITION PAPER

INTRODUCTION

Assembly Concurrent Resolution No. 9 of the 58th Session of the Nevada Legislature directed the Legislative Commission to study budget formulas and budget formats used for the University of Nevada System (UNS). The report (Bulletin # 77-5) was submitted to the 1977 Legislature. Among its recommendations was an endorsement of the concept of formula budgeting for instruction in the teaching appropriation areas. The report also recommended that the use of formulas not be extended to the non-instructional areas (support functions) but that perhaps over time such extension might be advisable. Finally, the report recommended that the UNS, the Budget Division and the Legislature continually monitor formulas for equity and adequacy in meeting the objectives of the system.

STRENGTHS

UNS has continued to use a funding formula for the instruction functions with minor variations related primarily to strengthening student/faculty and classified support ratios, and use of a "base budget" and "enhancement budget" (critical needs) concept.

The formula does provide an objective method of allocating state resources on an equitable basis, does reduce political competition among institutions, does provide decision makers (legislators, budget officers, etc.) with a relatively simple basis for reviewing the expenditure and income needs of state institutions, and provides some stability in the budgetary process.

WEAKNESSES

The formula used today for higher education also has weaknesses which can be summarized as follows:

1. The "enhancement budget" contains far too many items which properly belong in the "base budget".

2. The formula is quantity driven in that it requires increased numbers of students to produce necessary revenues.

3. It does not adequately recognize the need for a core of full-time faculty in the community colleges.

4. It fails to relate the need for support services to the increase in the number of students being served.

5. It does not include a method to amortize equipment over time to provide for replacement and it does not adequately provide for equipment maintenance.

6. It does not adequately meet the needs to equip libraries with books and periodicals.

7. It does not provide the necessary funding for preventive maintenance of campus facilities.

RECOMMENDATION - INSTRUCTION

1. UNS recommends continued strengthening of student/faculty ratios through strengthening of the overall student/faculty ratio. Additionally, ratios for specific programs (for example, developmental in the community colleges and business and economics in the universities) should be strengthened on an individual basis when appropriate. This allows the system to address changing needs in higher education and to work towards quality improvement for all programs.

2. The full-time/part-time ratios in the community colleges need to be revised. The national median for community colleges as reported in the 1983-84 National Association of College and University Business Officers study of 560 institutions is 70% full-time, 30% part-time.

3. The classified support level in instruction for the community colleges needs to be reduced to the same level as for the universities (from 6:1 to 5:1).

4. The method for budgeting graduate assistants for the

universities should relate to FTE faculty. Currently they are budgeted at a flat rate.

5. An appropriate method of amortizing instructional and research equipment over time and providing for its maintenance needs to be developed. The current method of legislative "one-shot" appropriations is unpredictable and the timing does not always coincide with the needs for the equipment.

6. An appropriate allotment for equipping new positions needs to be developed so that each new position is equipped properly at the time of hiring. This should take some pressure off the operating budget and allow strengthening for this component.

7. Year-round funding needs to be considered. Currently the summer session must be self-supporting. Some faculty support positions need to be maintained on a year-round basis but the formula does not acknowledge the year-round operations of our institutions.

8. Setting compensation goals needs to be explored for inclusion in the formula. Comparisons with comparable universities and community colleges can be made to assure UNS institutions the ability to compete for top quality professionals.

SUPPORT FUNCTIONS

1. The formula needs to be expanded to include support functions

(Student Support, Institutional Support, Academic Support, O&M of Plant). The current formula fails to recognize the relationship between instruction and the support functions and, therefore, funding for these areas has not kept pace with rapid institutional growth. As enrollment has increased the number of faculty has increased, but there has been relatively little increase in support staffing. When more students enroll, more support services are required in admissions and records, counseling and guidance, financial aid, etc. As more faculty are added and additional equipment is provided, more services are required from personnel and purchasing. More students and faculty increase the services required from the controllers' offices, the libraries, and administration in general.

2. Funding for the operation and maintenance of the campus facilities should be included within the formula. The current practice of providing these funds on an incremental basis is inadequate, particularly for preventive maintenance.

3. Book and periodical acquisitions need to be included in the formula. These are funded incrementally in the current budget based on a flat rate. However, there is a relationship between numbers of volumes required and numbers of students enrolled. National comparisons are also available which can be useful in determining funding for libraries.

4. Expanding the formula to include support functions would expand the definition of the "base budget" and limit the "enhancement budget" for expenses such as new programs, special equipment acquisitions, and developing centers of excellence.

CONCLUSION

The 1977 legislative study on UNS budget formulas and formats noted that formulas, "once devised and generally accepted, must not be taken for granted as satisfactory for all time."

The University of Nevada System has functioned well under the formula funding approach developed nearly a decade ago, as its institutions have been assured an equitable distribution of resources during a period of growth, particularly in the instruction areas.

Today, our institutions are concerned not only with meeting the needs of an increasing student population, but also improving the quality of its offerings.

The Board of Regents has developed higher admission standards for its universities, which are actively engaged in recruiting Nevada's brightest students. The board has lobbied for improved faculty compensation to retain and recruit high-quality faculty. State-of-the-art equipment is being purchased to benefit all UNS teaching institutions. Our community colleges offer a wide range of educational services to the state, its businesses, its citizenry. The Desert Research Institute continues to play a vital role in research projects benefiting the State of Nevada and its success is dependent upon stable funding support for equipment and administration.

We welcome this timely legislative review of the higher education budget process. Implementing the aforementioned recommendations will help UNS, the administration and the Legislature streamline the budget process, improve planning,

and provide greater stability and equity in allocating state resources among institutions on an objective basis.

APPENDIX C

REPORT ON UNIVERSITY OF NEVADA SYSTEM PLANNING AND FORMULA FUNDING RECOMMENDATIONS

REPORT ON
UNIVERSITY OF NEVADA SYSTEM PLANNING
and
FORMULA FUNDING RECOMMENDATIONS

Submitted to the Legislative Committee Studying
Funding for Higher Education

February 12, 1986

71.80

EXECUTIVE SUMMARY

Quality Education and Nevada: Partnership for Progress

One of Nevada's greatest assets is the University of Nevada System. Its colleges, universities and research centers are well-prepared to contribute to the progress of Nevada to the year 2000 and beyond. During the next ten years the State of Nevada and the West are in need of an educated workforce for industry, commerce, public service and the general welfare. The campuses of the University System will provide this through excellence in teaching, research and public service. Nevada's future to the year 2000 will be one of growth, rapid change and diversification. The University of Nevada System will be a partner in that future, as well as a valuable resource to prepare students, young and old, to be productive and educated citizens. The goal of the University of Nevada System for the year 2000 is to attain a system of high quality for a twenty-first century Nevada.

Need for Enhanced and Stable Funding

The purpose of studying state formulas for the support of higher education in Nevada is based on the failure of the current formula to adequately address areas of funding other than instruction. There is a clear and demonstrated need for the enhancement of funding formulas to provide for a wider base funding for all areas of higher education. The development of a new formula or formulas must occur to raise the level of state support, and to increase the stability of the funding process.

Planning for the Future

The campuses at the University of Nevada System regularly engage in planning activities in the review of academic programs. On a biennial basis, a Systemwide planning report is published which reflects the planning efforts of System institutions and which provides a statewide overview of public higher education in Nevada. This also serves as an update of the System planning document, Nevada 2000: Future Directions for Nevada's Colleges and Universities, which was published in 1983, and forecasts population and economic changes, student enrollment in academic programs, and provides a general statement on resources.

Planning for the Future, cont.

Comprehensive campus plans were published in 1981, comprehensive review of programs was accomplished and accepted by the Board of Regents in 1983, and planning updates are provided by each campus prior to January of each legislative session and included in the University of Nevada System Planning Report submitted to each session of the legislature.

Resources for Success

An important goal of the Board of Regents and the University of Nevada System is to identify alternative means of funding to support higher education in its pursuit of its educational goals for the state. There is a need to focus on the process used to secure steady and adequate funding to achieve quality for all of higher education in Nevada. The University of Nevada System is continuously involved in short-range and long-range planning, as are its seven institutions. This planning involves identifying faculty, student, programmatic, and support service needs.

Agenda for Quality

System needs are comprehensive and extensive, and related to campus abilities to achieve educational and training goals. The primary goal for the future is to raise and maintain the quality of higher education in Nevada. Because we are as strong as our faculty, and we are a labor intensive organization, primary goals for the year 2000 are to:

1) enhance high quality faculty (offer salaries very competitive on a national scale),

2) enhance high student quality (offer improved scholarships and raise standards),

3) endow academic and research chairs,

4) enhance excellence in teaching, research training, and public service.

TABLE OF CONTENTS

I. Overview of Funding Needs and Planning Activities in the University of Nevada System..... 1

A. The Need to Enhance Formula Funding..... 1

B. Institutional Goals and Plans..... 2

1. Universities and Desert Research Institute..... 2
2. Community Colleges..... 4

II. Major Issues Shaping Higher Education to the Year 2000.... 6

A. High Quality Education..... 6

B. Economic Development..... 8

C. New Technology.....10

D. Demographics/Enrollment.....11

E. Financial Resources.....13

III. Conclusion and Recommendations for Enhancement of Funding Formula.....14

A. Conclusions.....14

1. Funding for Support Functions.....14
2. Funding for Instructional Programs.....15

Bibliography of Higher Education Planning Documents.....17

Report on University of Nevada System Planning
and
Formula Funding Recommendations

The purpose of studying state formulas for the funding of higher education at this time is based on the perceived failure of the current formula to adequately address various areas of funding of higher education other than those that are instructional. There is a clear and demonstrated need to enhance funding formulas to provide for a wider based funding for all components of higher education. The development of a new or enhanced formula or formulas must occur to raise the level of state support, and to bring greater order to the funding process.

The campuses of the University of Nevada System regularly engage in planning activities in the review of academic programs. A Systemwide planning report is published biennially which reflects the planning efforts of System institutions and which provides a statewide overview of public higher education in Nevada. This also serves as an update of the System planning document, Nevada 2000: Future Directions for Nevada's Colleges and Universities, published in 1983, which forecasts population and economic changes, student enrollment in academic programs, and provides a general statement on resources needed for the future. Comprehensive campus plans were published in 1981. A comprehensive review of programs was completed and accepted by the Board of Regents in 1983, and planning updates are provided by each campus and included in the University of Nevada System Planning Report submitted to each session of the legislature.

The University of Nevada System and its campuses also have participated with the state in the publication of a plan for economic development and diversification which contains specific references to higher education. Working with the State Board of Education representing education from K through 12, the University of Nevada System produced two reports on student preparation for entrance into college and for pursuing vocational careers.

These documents are effective and clear roadmaps for the future of higher education in Nevada. They analyze demographic, technological, economic, academic, financial, and social issues facing higher education to the year 2000, and demonstrate the competence, accountability and vision of the institutions of the University of Nevada System. Clearly, higher education in Nevada plans to serve a more diverse population, increasing numbers of students, older adults, and will provide excellence in teaching, research and public service to the state. The University of Nevada System is an integral part of social and economic development for the State of Nevada.

INSTITUTIONAL GOALS AND PLANS

All institutions within the University of Nevada System have established goals to meet the needs of Nevada's citizens to the twenty-first century and beyond. The campuses and the Chancellor's Office, in support of the Board of Regents, have published planning documents containing issues discussed below. They are listed in the bibliography.

Universities and Desert Research Institute

One mission of the two universities and the Desert Research Institute (DRI) is to undertake and provide programs of basic and applied research. Another is to sponsor and conduct continuing programs of public service for its citizens. The universities have the primary mission of providing high quality instruction, and the Desert Research Institute has the additional mission of providing an information reservoir for Nevada resource management and supporting economic development.

Projecting to the year 2000, it is anticipated that southern Nevada will continue to grow into a major metropolitan area. This growth will stimulate and support development of the University of Nevada, Las Vegas (UNLV) as a major research institution. The University of Nevada, Las Vegas anticipates the implementation of 19 new degree programs, most at the graduate

level. In seeking to become a first-rate urban and comprehensive university meeting both state and national educational responsibilities, the University of Nevada, Las Vegas will also seek the addition of Ph.D. programs and accreditation of academic units with appropriate accrediting bodies.

The University of Nevada-Reno (UNR) also projects the addition of new academic programs, especially those programs with a strong emphasis on the liberal arts, research, and interdisciplinary programs. The University of Nevada-Reno will continue to identify and support centers of excellence to achieve national and international recognition, and resolves to offer high quality degree programs in the arts, sciences, and select professions, with emphasis upon meeting the needs of the citizens of the state.

The Desert Research Institute projects that in its efforts to build a national and international reputation, it will move toward increased multidisciplinary research in terms of water resources, man and environment, measurement science, and emerging technologies. The Desert Research Institute will also play a major role in supporting Nevada's economic development to the twenty-first century.

For a more comprehensive discussion of university and Desert Research Institute planning and academic program review, see:

University of Nevada-Reno, A University Upon Maturity: A Plan for the 1980's.
University of Nevada, Las Vegas, Interim Long Range Plan.
University of Nevada, Las Vegas, Twenty-Five Years and the Future to Serve: Academic Master Plan.
Desert Research Institute, An Institutional Plan for the Decade of the Eighties: The Desert Research Institute Looks to the Future.
University of Nevada-Reno, An Agenda for Excellence: Academic Planning in a Time of Limited Resources.
University of Nevada, Las Vegas, Academic Planning Report and Related Program Review and Reallocation Statement.
Desert Research Institute, Comprehensive Program Review.
Nevada's Higher Education at the Crossroads.

Community Colleges

Nevada's four community colleges have reaffirmed their future commitment to the five-fold mission to provide occupational/technical programs, university transfer programs, community service programs, developmental education, and counseling and guidance services. Both open access and student success for all Nevadans, regardless of background or abilities, are high priorities for the community colleges. Offering technical and occupational training, in response to Nevada's workforce needs, will continue to be a major contribution of the community colleges.

Each campus, in projecting to the year 2000, is committed to serving the needs of its individual and unique communities. Enhancement and expansion of occupational/technical programs reflect these individual priorities. Among the several new or expanded programs cited are the following:

- Clark County Community College projects new or expanded programs in the medical field, court reporting, and gaming technology
- Northern Nevada Community College projects an expansion and restructuring of its geotechnical science program and a new electronics program
- Truckee Meadows Community College projects an expanded child development program, a certificate program in graphic arts/print production, and development of robotics, welding, drafting and electronics
- Western Nevada Community College projects new and expanded programs in CAD/CAM drafting, manufacturing engineering technology, electronics, and drafting.

Existing developmental programs, continuing education, and programs in both the arts and sciences will be augmented. Delivery of courses through telecommunications and interfacing with business and industry for employee training programs in a rapidly changing environment are two areas that will receive additional emphasis into the next century.

For a more comprehensive discussion of community college planning and academic program review, see:

Clark County Community College, Master Plan.
Clark County Community College, Master Plan 1983-1987.
Northern Nevada Community College, Master Plan, 1981-1983; 1983-1985.
Truckee Meadows Community College, A Plan for Lifelong Learning Opportunities: 1981-1983; 1983-1985.
Western Nevada Community College, Master Plan 1981-1986.
Clark County Community College, Master Plan and Program Review Process.
Northern Nevada Community College, Comprehensive Program Review.
Truckee Meadows Community College, Long Range Plan and Program Review Report.
Western Nevada Community College, Program Review Report, updated 1985.
Nevada's Higher Education at the Crossroads.

MAJOR ISSUES SHAPING HIGHER EDUCATION TO THE YEAR 2000

In a rapidly changing environment such as we live in today, many issues shape the direction of higher education in Nevada during the remainder of this century. In both campus and System planning documents, five issues have been identified as having a possible impact on higher education planning: high quality education, demographics/enrollment, new technology, economic development, and resources.

High Quality Education

The attainment of quality is the paramount goal for public higher education in Nevada for the year 2000. Our System must attain a regional and national reputation for high academic standards and effective occupational training. To achieve this, our primary objective is to continue recruiting and retaining outstanding faculty. Outstanding faculty will ultimately result in the recruitment and retention of students of high quality, and of nationally and regionally recognized research and public service projects. In pursuit of improved quality education, new high school core course admission requirements will be implemented effective fall, 1989.

The critical component needed to achieve quality higher education is the provision of stable and enhanced funding for the University of Nevada System. We must be prepared to cope with increased costs for higher education by augmenting public support, by establishing endowed chairs, and through increased support and scholarships to students. In order to recruit and retain outstanding faculty, the goal shall be, by the year 2000, to have established faculty salaries in the top quartile of the nation. This is the key to excellence. It will also lead to improved quality of students, research, public service, economic development, new academic programs, and service to the State of Nevada.

For a more comprehensive discussion of quality education, see:

University of Nevada System, Nevada 2000: Future Directions for Nevada's Colleges and Universities, pp. 51-57; 72-73; 81-85.
The University of Nevada System Planning Report: 1985-1989, Ch. 5.
Making High School Count: Report of the Nevada Joint Council on College Preparation.
Nevada's Higher Education at the Crossroads.

Also see institutional planning reports and program review reports.

Economic Development

The Nevada State Plan for Economic Diversification and Development calls upon the University of Nevada System to be a leader and an active partner in statewide economic diversification and development issues. High quality education is a leading factor in Nevada's economic diversification potential. According to the state plan, "If the University of Nevada System is to fully play its role in achieving a diversified economy, current trends must be reversed. Resources must be committed by the Nevada Legislature to replace lost faculty through the provision of nationally competitive salaries." (Page 24) Programs, equipment, and facilities must be strengthened.

The state plan calls for enhanced resources for higher education and recommends several additional initiatives, such as: the establishment of product development centers, research parks, a statewide research fund, and start-up capital for occupational training courses.

Increased partnerships with business and industry will contribute toward economic growth and development of the state. Both universities provide expertise in scientific, business, health and other areas, and are major producers of business and professional leaders in Nevada. Organized programs for the development of new jobs, economic forecasting, and resources which benefit both business and citizens are provided through a variety of centers and research institutes. The Desert Research Institute will continue to be a valuable resource to the state. Economic expansion and diversification will continue to be closely bound with higher education.

One of the primary missions of Nevada's community colleges is to provide occupational programs and technical training in response to community needs. Each campus will continue to develop curriculum and programs which reflect the current and future requirements of businesses and industries in its service area.

For a more comprehensive discussion of economic development issues, see:

University of Nevada System, Nevada 2000: Future Directions for Nevada's Colleges and Universities, pp. 14; 56-57; 82-85.
The University of Nevada System Planning Report: 1985-1989, pp. 32-33, Ch. VI.
Higher Education and High Technology in Nevada.
Nevada State Plan for Economic Diversification and Development, Ch. 4 and 9.
Making High School Work: Report of the Nevada Joint Council on Occupational Education, Ch. 2.

New Technology

All plans and future projections are influenced by the technological revolution in which we find ourselves. Higher education in Nevada in the year 2000 will both be a cause of and part of the technological revolution in this state. Continued change and economic development of the state are dependent upon cutting-edge research and development spearheaded by the universities and research institutes. Nevada institutions are aware of the continuing impact of new technology on business and industry. A flexible community college system can provide occupational and quick-start training for a changing workforce. Quality research and education is dependent on up-to-date equipment, facilities, and quality instructors and faculty. The University of Nevada System must be both a leader in the development of new technology and a consumer of new technological developments.

New methods of instructional delivery, such as telecourses and computer-aided instruction, will be increasingly used by faculty. Telecommunications networks and regional consortia will make boundaries between college districts and even states increasingly arbitrary. All campuses in the System project increased use of computers, educational telecommunications, and leading-edge technology for instruction, research, and job training programs.

For a more comprehensive discussion of new technology and product development, see:

University of Nevada System, Higher Education and High Technology in Nevada.

University of Nevada System, Nevada 2000: Future Directions for Nevada's Colleges and Universities, pp. 81-85.

The University of Nevada System Planning Report: 1985-1989, Ch. VI.

Nevada State Plan for Economic Diversification and Development, pp. 19-20; 22-25; 29.

Demographics/Enrollment

Nevada is the third fastest-growing state in the nation and it is projected to continue to grow through the end of the century to a population of approximately 1,400,000. Census Bureau figures indicate a continuing migratory trend toward the sun belt states of the South and the West. In addition to this overall population growth of the state, there is a dramatic growth in the preschool age children (25.2 percent gain between 1980 and 1984) and school age children (2.6 percent gain between 1980 and 1984) populations. By the 1990's, the first wave of this mini "baby boom" is predicted to hit Nevada's institutions of higher education. In addition, it is predicted that increasing numbers of women, minorities, and older nontraditional students will enter our institutions of higher education. Not only will Nevada institutions serve more students, but a more diverse mix of students as well. Our planning documents have projected System enrollment in the year 2000 to reach the 70,000 range; current enrollment is approximately 46,000 students. In order to reduce the outmigration of high quality Nevada high school graduates, special emphasis should be placed on the development of statewide scholarship programs.

The University of Nevada, Las Vegas anticipates a dramatic increase in enrollment by the year 2000, based on population forecasts that predict a 60 percent increase in Clark County by then. Based on conservative estimates of a 3.5 percent annual increase, by 1995 the University of Nevada, Las Vegas will have 16,851 students enrolled, and 20,132 by the year 2000.

The University of Nevada-Reno estimates annual enrollment increases of between 1.5 to 2 percent. More than 12,000 headcount students will be enrolled by 2000. Improved articulation with the community colleges and efforts to broaden course and program offerings for nontraditional students will also increase the potential number of students seeking admission.

Overall, community college campuses anticipate a 3 percent annual growth in headcount. The expected enrollment mix will

include more part-time students, older students, and lifelong learners.

For a more comprehensive discussion of enrollment planning, see:

University of Nevada System, Nevada 2000: Future Directions for Nevada's Colleges and Universities, pp. 31-42; 43-56.
University of Nevada System Planning Report: 1985-1989, Ch. VII.

Financial Resources

The 1980's brought a number of changes to higher education across the country: state budget cuts, decline in federal funding, and increased operating expenses. All of these resource issues affect the quality of education. Although we are aware of the dangers of reaching conclusions based on aggregate data, it is significant that in recent studies Nevada was found to be in the lower categories of most areas of state support for higher education. Higher education in Nevada is engaged in a vigorous competition for scarce resources not only in the state, but nationally as well. The 1985 legislative session recognized the need for educational support and increased the proportion of the state budget allocated to higher education. Without this continuing support, we will be unable to maintain high quality facilities, programs, and faculty.

In order to secure the necessary resources, the University of Nevada System must develop several strategies. Private sector resources such as endowments, joint ventures, shared executives, equipment and special programs, and industrial internships for students and faculty must be explored and developed. As well, expanded public sector support should be pursued through grants, contracts, and student aid. Question 5, the federal estate tax pick-up, is a potential resource for enhancing education in Nevada. Policies are currently being developed in hopes that anticipated proceeds are directed by way of endowments, centers of excellence, or scholarships to the enhancement of quality education in the state. It is imperative that anticipated funds are used to supplement, not supplant, current state resources. Finally, an enriched state funding formula, the basis for this report and the purpose of this committee must be developed.

For a more comprehensive discussion of resources, see:

University of Nevada System, Nevada 2000: Future Directions for Nevada's Colleges and Universities, pp. 67-77.
The University of Nevada System Planning Report: 1985-1989, Ch. III and IV.
Nevada State Plan for Economic Diversification and Development, pp. 24-25; 45.
Nevada's Higher Education at the Crossroads, Introduction.

CONCLUSION AND RECOMMENDATIONS

An important goal, then, of the Board of Regents and the University of Nevada System, is to identify alternative means of funding to support higher education in its pursuit of its educational goals for the state. There is a need to focus on the process used to secure steady and adequate funding to improve quality for all of higher education in Nevada. We have done and continue to do short-range and long-range planning, and the campuses have and will continue to do planning to identify faculty, student, programmatic, and support service needs.

Those needs are comprehensive and extensive, and related to campus abilities to achieve educational and training goals. The primary goal for the future is to raise and maintain the quality of higher education in Nevada. Because we are as strong as our faculty, and we are a labor-intensive organization, primary goals by the year 2000 are to 1) enhance high quality faculty (offer salaries very competitive on a national scale), 2) enhance high student quality (offer improved scholarships and raise standards), 3) endow academic and research chairs, and 4) enhance teaching, research, training, and public service.

The University of Nevada System further recommends the following amendments to higher education funding in the State of Nevada.

Support Functions

1. The formula needs to be expanded to include support functions. (Student support, institutional support, academic support, O&M of plant). The current formula fails to recognize the relationship between instruction and the support functions and, therefore, funding for these areas has not kept pace with rapid institutional growth. As enrollment has increased, the number of faculty has increased, but there has been relatively little increase in support staffing. When more students

enroll, more support services are required in admissions and records, counseling and guidance, financial aid, etc. As more faculty are added and additional equipment is provided, more services are required from personnel and purchasing. More students and faculty increase the services required from the controllers' offices, the libraries, and administration in general.

2. Funding for the operation and maintenance of the campus facilities should be included within the formula. The current practice of providing these funds on an incremental basis is inadequate, particularly for preventive maintenance of aging facilities.
3. Book and periodical acquisitions need to be included in the formula. These are funded incrementally in the current budget based on a flat rate. However, there is a relationship between numbers of volumes required and numbers of students enrolled. National comparisons are also available which can be useful in determining funding for libraries.
4. Expanding the formula to include support functions would expand the definition of the "base budget" and limit the "enhancement budget" to expenses such as new programs, special equipment acquisitions, and developing centers of excellence.

Instruction

1. Setting compensation goals needs to be explored for inclusion in the formula. Comparisons with comparable universities and community colleges can be made to assure University of Nevada System institutions the ability to compete for top quality professionals.
2. The University of Nevada System recommends continued strengthening of student/faculty ratios through strengthening of the overall student/ faculty ratio. Additionally, ratios for specific programs should be

when appropriate. This allows the System to address changing needs in higher education and to work towards improvement for all programs.

3. The full-time/part-time ratios in the community colleges need to be revised. The national median for community colleges as reported in the 1983-1984 National Association of College and University Business Officers' study of 560 institutions is 70 percent full-time, 30 percent part-time.
4. The classified support level in instruction for the community colleges needs to be reduced to the same level as for the universities (from 6:1 to 5:1).
5. The method for budgeting graduate assistants for the universities should relate to undergraduate FTE faculty and graduate enrollment. Currently, they are budgeted at a flat rate.
6. An appropriate method of amortizing instructional and research equipment over time and providing for its maintenance needs to be developed. The current method of legislative "one-shot" appropriations is unpredictable and the timing does not always coincide with the needs for the equipment.
7. An appropriate allotment for equipping new positions needs to be developed so that each new position is equipped properly at the time of hiring. This should take some pressure off the operating budget and allow strengthening for this component.
8. Year-round funding needs to be considered. Currently, the summer session must be self-supporting. Some faculty support positions need to be maintained on a year-round basis, but the formula does not acknowledge the year-round operations of our institutions.

Higher Education Planning Documents

I. University of Nevada System Planning Documents

1983 University of Nevada System, Higher Education and High Technology in Nevada.

1983 University of Nevada System, Nevada 2000: Future Directions for Nevada's Colleges and Universities.

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1985 The University of Nevada System Board of Regents and the State Board of Education, Making High School Work: Report of the Nevada Joint Council on Occupational Education.

1985 University of Nevada System, The University of Nevada System Planning Report: 1985-89.

1985 University of Nevada System Institutions, Nevada's Higher Education at the Crossroads.

(1985) (Commission on Economic Development, Nevada State Plan for Economic Diversification and Development.)

II. Long Range Institutional Plans

1981 University of Nevada-Reno, A University Upon Maturity: A Plan for the 1980's.

1981 Clark County Community College, Master Plan.

1981 Northern Nevada Community College, Master Plan, 1981-1983; 1983-1985.

1981 Truckee Meadows Community College, A Plan for Lifelong Learning Opportunities: 1981-1983; 1983-1985.

1981 Western Nevada Community College, Master Plan 1981-1986.

1981 Desert Research Institute, An Institutional Plan for the Decade of the Eighties: The Desert Research Institute Looks to the Future.

1981 University of Nevada, Las Vegas, Interim Long Range Plan.

1983 Clark County Community College, Master Plan, 1983-1987.

1983 University of Nevada, Las Vegas, Twenty Five Years and the Future to Serve: Academic Master Plan.

III. Comprehensive Program Review Documents

1983 University of Nevada, Las Vegas, Academic Planning Report and Related Program Review and Reallocation Statement.

1983 University of Nevada-Reno, An Agenda for Excellence: Academic Planning in a Time of Limited Resources.

1983 Clark County Community College, Master Plan and Program Review Process.

1983 Northern Nevada Community College, Comprehensive Program Review.

1983 Truckee Meadows Community College, Long Range Plan and Program Review Report.

1983 Western Nevada Community College, Program Review Report, updated 1985.

1983 Desert Research Institute, Comprehensive Program Review.

APPENDIX D

AN OVERVIEW OF 1985 STATE BUDGET FORMULAS FOR HIGHER EDUCATION

AN OVERVIEW OF 1985 STATE BUDGET FORMULAS FOR PUBLIC HIGHER EDUCATION

A REPORT PREPARED FOR
NEVADA LEGISLATIVE COMMITTEE
TO STUDY FUNDING FOR HIGHER EDUCATION

FEBRUARY 12, 1986

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100

Table of Contents

		Page
I.	Introduction	1
II.	Descriptions of State Budget Formulas	1
	Instruction	3
	Research and Public Service	4
	Institutional Support	4
	Student Services	5
	Operation and Maintenance of Plant	5
	Libraries	6
III.	Summary and Findings	7
IV.	Descriptions of Budget Formulas in Sample States	12
	Mississippi	12
	New Mexico	14
	Georgia	16
	Oregon	18
	Tennessee	21
V.	Definition of Terms Commonly Used in Budget Formulas	24
References		28
Appendix		
Table I.	Calculation of Functional Classifications by State of 1985 Public Higher Education Formulas	30
Table II.	1985 Formulas for Budgeting or Allocating Funds for Instruction and Academic Support in Public Higher Education	33
Table III.	1985 Formulas for Budgeting or Allocating Funds for Research and Public Service in Public Higher Education	39
Table IV.	1985 Formulas for Budgeting or Allocating Funds for Institutional Support in Public Higher Education	41
Table V.	1985 Formulas for Budgeting or Allocating Funds for Student Services in Public Higher Education	44
Table VI.	1985 Formulas for Budgeting or Allocating Funds for Operation and Maintenance of Plant in Public Higher Education	47
Table VII.	1985 Formulas for Budgeting or Allocating Funds for Libraries in Public Higher Education	53

I. INTRODUCTION

The funding of public universities and colleges in America has historically been a matter left to the states, an issue resolved in a climate of respect for higher education and of compromise based on fifty different political realities. Budget formulas are the most common budget tool used by states to allocate tax dollars to higher education. The objectivity of a cost-based mathematical formula appeals to both educators and state legislators. These budget formulas are traditionally defined as

> a set of statements which detail a procedure for manipulating variable (quantitative) data applicable to an institution of higher education (base factors) by pre-established fixed (formula factors) data to produce the estimated future funding requirements of the institution (Gross 1973).

Their historic appeal has been their apparent objectivity and contribution to equity and adequacy. Advantages are numerous. The classic examination of formulas in 1964 by James L. Miller, Jr., cited these:

1) facilitation of analysis and information provision;
2) facilitation of interinstitutional comparisons;
3) contribution to equity in the funding of institutions;
4) contribution to adequacy in institutional funding by allowing requests to be made in a simple, systematic, and apparently irrefutable way; and
5) facilitation of the highlighting of important policy questions.

When constructed well, budget formulas are equitable, flexible, objective, clear and comprehensible, broad-based, not designed as tools for detailed control, and sensitive to diverse financial needs and varying instructional costs (Gross 1973).

In 1985 a survey of all fifty states was conducted to examine the structure of formulas currently used by states to generate budget requests or allocations to public higher education. From that survey was derived (1) the number of states using formulas, (2) the base factors utilized, (3) the computational methods, (4) the level of differentiation within formulas, (5) the complexity of the formulas, and (6) the geographic distribution of states using formulas.

II. DESCRIPTIONS OF STATE BUDGET FORMULAS

Forty-six states responded to the request for information on the budgeting and allocation process for higher education. Of these

forty-six, thirty-three were found to be using a formula process either in the budget request or in the allocation aspect of state funding. Of these thirty-three, three used the formula process only for community or technical colleges (Michigan, Nebraska, and Illinois).

Thirty of the thirty-three states classified as formula-using states responded with sufficient information that the formula by functional classification could be described. These formulas vary widely in form as can be seen by the summary in Table I - Appendix. Six functional classifications (Instruction, Research and Public Service, Institutional Support, Student Services, Operation and Maintenance of Physical Plant, and Libraries) were used in this analysis in differentiating among resource needs. All states use the functional classification of Instruction in their formula, and twenty-three states include Physical Plant Operation and Maintenance, the second most common classification found in formula calculations.

The purpose of the identified formulas varies. Four states described formulas used for allocation distribution only - Idaho, Nebraska, South Dakota, and West Virginia. Two states (Alabama and Pennsylvania) described separate formulas for the budget request process and the allocation distribution process. The remaining twenty-four states reported on formulas used for the budget request process.

The formula components of the six functional classifications are described by (1) Line Item--title given category in formula description; (2) Base Factors--objective and quantitative data which describe some aspect (past, present, or future) of a specific institution and are used as input to drive a budget formula; (3) Formula Factors--pre-established factors specified in a budget formula that are applicable to all institutions or types of institutions, as student-faculty ratios, rates per base factor unit, percentages, etc.; (4) Methods of Computation--three approaches to mathematically calculate formula components identified by Francis Gross in 1973; and (5) Differentiation--by academic areas, by instructional levels, and by type of institutions, the degree of differentiation within the calculation process specified.

The methods of computation are identified as follows:

a) Rate per base factor unit (RBFU)--base factors such as credit hours or square feet were multiplied by specified rates per unit.

b) Percentage of base factor (PBF)--set percentage of a functional budget area determines another budget area.

c) Base factor position ratio with salary rates (BFPR/SR)--given position ratios are applied to appropriate raw data to determine total number of positions and then multiplied by established salary rates.

Thus, a particular formula for a given line-item will take the form of a base factor (such as student credit hours produced) and a quantitative formula factor (such as faculty/credit hour production) related to one another by an identified computation. Within this process weights are often given to the factors based on

differentiation by academic area, by instructional level or by type of institution. Using these components the various state formulas can be examined and compared by functional classification.

Instruction. Every state identified as a formula utilizes this functional classification (summarized in Table II - Appendix). Apparent from the line item titles is the wide range of costs included under Instruction, from faculty salaries only in Colorado to the entire operating budget in Oklahoma. The base factors used for the functional classification Instruction include: student credit hours (SCH), full-time equivalent (FTE) students, full-time equivalent (FTE) positions, student contact hours, continuing education units, and specific budget amounts (then used as a base to which a percentage can be applied). Twenty states use student credit hours as a base factor, ten used the SCH production of the previous year or a base year, six use a SCH production averaged over several years, usually three, and six use the projected SCH production. One state (Kentucky) specifies that either the averaged SCH production or the projected student credit hour production may be used. One state (Alabama) specifies that either the actual SCH production of a base year or an averaged SCH production over three years may be used.

Only one mathematical step away from SCH is the measurement of FTE enrollment. Eleven states use FTE enrollment as a base factor in at least some portion of their calculations. Of these eleven, six base the FTE count on projections, four base the FTE count on past or present enrollment, and Kentucky again allows for either a projected or three-year-average figure.

The formula factors used to define the area of Instruction included student/faculty ratios, established dollar factors, teaching productivity factors, faculty/staff ratios, and set percentages. Fifteen states used an established dollar factor to multiply by a base factor in the RBFU method for at least some portion of their calculations. Of these, two state that the dollar amount was based on costs from comparable institutions in other states, rather than on historical cost data from the institutions involved. Sixteen states used the BFPR/SR computation method in at least some portion of the Instruction calculations. Of these, five based the salary range or average salary on data from comparable institutions out of state, rather than from historical internal cost studies, and Tennessee used a student/faculty ratio based on comparable institutions out-of-state, rather than on historical internal data. Thirteen states used the PBF computation method in some portion of the calculations, but only Idaho, Missouri, Nebraska, and Pennsylvania used the PBF as the sole computational method. Twelve states used a combination of the three computational methods.

One element that appeared frequently in the Instruction classification computations was a fixed or given amount to which was added the figure arrived at by the specified calculations. Four states utilized a "base plus" approach with the add on reflective of traditional base factors such as SCH or FTE enrollment.

In the category of Instruction, budgets were generally differentiated by academic levels, instructional levels, and type of institutions. Only one state (Illinois) failed to make any of these distinctions, and Illinois uses the formula only for its community college system. In the academic discipline area, seventeen states made differentiations. Differentiation by levels of instruction occurred in twenty-three states. The general pattern for these levels appeared to be community college, lower-division, upper-division, masters, doctoral, special professional programs. Variations within these divisions occurred from state to state.

Differentiation among types of institutions or among specific institutions occurred in fourteen states. Most states differentiated by community colleges/technical institutes, colleges, and universities or by size of institutions within these categories. Often the flagship state university was in a category by itself.

Research and Public Service. Twelve states include the funding of either of these two areas in their budget formulas (summarized in Table III - Appendix). Base factors used most often in Research and Public Service areas are other parts of the budget or the previous year's budgeted amount for research and/or public service. Combined with a percentage factor this latter base is indicative of a simple incremental approach to funding. Two states use monies received from outside sources, such as federal and private gifts, grants and contracts, as the base factor. Combined with a percentage formula factor, this appears to be designed to encourage greater fund-seeking activity on the part of the institutions.

As would be expected, the primary formula factor is a percentage and the primary method of computation is PBF (present in all twelve states). No state differentiated on the basis of academic disciplines, only one state differentiated on the basis of level of instruction, and six states funded Research and Public Service differentially based on the type of institution.

Institutional Support. Twenty states include this area in their formula model (summarized in Table IV - Appendix). The base factors used for the category of Institutional Support include total E & G budget (excluding Institutional Support), FTE staff, FTE enrollment, head count, SCH production, and budgeted amount for Instruction. Seven states use total E & G budget (excluding Institutional Support), the most frequently used base factor. Four states use a base of FTE enrollment or some other portion of the budget. The base factors used include percentages (thirteen), fixed factor in dollar amounts (six), staff/administrator ratio (one), and staff/student ratio (two). The calculation method used most often in conjunction with these base factors is the PBF. In thirteen out of twenty states, the PBF method is used. The RBFU is used in five, and the BFPR/SR is used in two.

The primary differentiation evident in this classification was by institution type. Four states differentiated by size or type of institution. Pennsylvania also differentiated by academic discipline (unspecified) and by level of instruction (four), undoubtedly due to

the fact that Student Services and Academic Support were included in the calculation of this category.

Student Services. Eighteen states described a separate category entitled Student Services (see Table V - Appendix). The most frequently used base factor was head count, reflecting the need to differentiate workload in this area in terms of numbers of persons served, not amount of instruction. Thirteen states used head count often in various combinations with other factors. For example, Idaho looks at student head count and head count of actual service users, South Carolina uses head count and student credit hour production, and Tennessee uses head count and FTE student enrollment. In addition to head count, four states use FTE enrollment, one state uses student credit hour production, and two states use a base of some other portion of the the current or the previous year's budget. Virginia budgets for Student Services on the basis of the number of campuses involved, allowing a base amount per campus.

The formula factors tend to be set amounts per student or FTE student reflective of workload factors for the services included in this category (thirteen states). Sometimes a base amount is set or guaranteed (five states), and the workload factor is added on. Student/staff ratios are utilized in two states. Not surprisingly the predominate computational method is the RBFU one, used in fourteen states. The two states using the student/staff ratios use the BFPR/SR methodology, and three states use a percentage amount. Three states provide for differentiation in funding based on the size or type of campus involved, and there is no evidence of any differentiation based on level of instruction or academic discipline of the student population.

Operation and Maintenance of Plant. This category tends to include more separate calculations than the other categories as states attempt to budget for the complicated variances in building and grounds upkeep and maintenance. Although security is placed under Institutional Support in the NCHEMS classification scheme, it most often was budgeted in formulas in this classification.

Twenty-two states sent verification of a budget formula for Physical Plant (see Table VI - Appendix). The descriptions of these vary widely, from services and supplies to maintenance, security, and utilities. The base factors include square footage and/or acreage (nineteen states), replacement or inventory value of physical plant (four states), head count (three states), budget expenditures of previous year (five states), and number of employees (three states). Florida has just changed in the current budgeting period from a square footage base to an incremental model while formula study is underway.

The formula factors used for Operation and Maintenance of Plant were most often established dollar factors based on cost studies related to past expenditures in relation to square footage and acreage. Using the RBFU method, fifteen out of twenty-two states utilized this approach. In addition to this, however, formula factors included square foot/staff ratios, square acre/staff,

staff/supervisor ratio, percentage of square feet on each campus, dollar factor per head count student, and various percentages. The computational methods were used in various combinations, but the follwing number of states utilized each at least once: RBFU - sixteen states, BFPR/SR - four states, and PBF - eight states.

Differentiation with the Plant Operation and Maintenance classification tended to relate to construction or usage factors, such as type of building, rather than academic differences. These bases for differential funding were intensity of usage, type of construction, presence of air conditioning, size, type of educational institution, cost of upkeep, proximity to urban areas, and value of property.

Libraries. Eighteen states utilize a Libraries formula (see Table VII - Appendix). Only one state, Florida, budgets for only the acquisitions, and one state, California, budgets only for the staff. The remaining sixteen formulas seem to reflect some combination of staff, other expenses, and holding acquisitions.

The base factors include student credit hour production, FTE enrollment, head count, publications, library holdings, FTE faculty/staff, other parts of the budget, number or type of academic programs, and the previous year's budget. The other part of the budget most often used as a base factor for Libraries is the Instruction budget.

Formula factors matched with these base factors included a fixed dollar factor based on historical cost data, student/faculty/staff ratios, and percentages. The use of cost data from institutions in referent states to determine the formula factor was reported in Tennessee. The computation method favored under this classification was the RBFU one. Used in twelve states, this approach was combined with a guaranteed base or fixed amount in three states. The PBF method was used in eight states, and the BFPR/SR was used in three.

Differentiation within the formula for academic discipline occurred in seven states and was usually reflective of the same differentiation used for Instruction. Differences in holding costs and library usage by department or discipline were allowed for as follows: Colorado - publication entitlement by department based on campus and state importance of discipline, Florida - each program weighted for holdings, Kansas - enrollment weighted by same twenty-four disciplines reflected in Instruction formula, Ohio - weightings for total course counts by department, Oregon and Virginia - needed library holdings determined by discipline, and Tennessee - increased factor amount allowed for sciences and technologies. Differentiation by level of instruction was likewise reflective of the Instruction differentiation and occurred in eight states. Differentiation by type of institution was usually based on a research or doctoral institution vs. other four-year institutions and occurred in four states.

Complete descriptions of the formulas of five sample states are cited in this report as examples of state budget formula practices (see page 12). These five states are presented in order of increasing complexity and represent different approaches to formula development. Mississippi utilizes only three categories to fund all of its university system (Instruction, Other Institutional Costs, and Research) and relies on student credit hour production as a base factor. New Mexico funds both four- and two- year institutions under the formula (adjusted) and adds Student Services calculated on student head count, Physical Plant calculated on square footage, and Utilities. New Mexico added a category called Building Renewal Formula based on physical plant investments. Georgia utilizes a faculty productivity factor and six categories. One of these categories is not a traditional functional classification, but is Quality Improvement, a set percentage of the total formula-generated amount set aside for quality improvement funding. Oregon has a new formula model just approved in 1984 that utilizes seven categories, the seventh of which is Equipment. A complicated productivity ratio by discipline based on comparative data from other states provided the formula factor for Instruction in Oregon. Tennessee named ten categories and specified that an additional five percent of the total appropriations could be "earned" by institutions (universities, community colleges, and technical institutes) by appropriate evaluation of instruction. These five sample states provide an overview of some of the most commonly used patterns and trends in budget formulas.

III. SUMMARY AND FINDINGS

The following findings are based on an analysis of the 1985 state budget formulas and summarize the use of these formulas in the states responding to the survey:

1. Thirty states are using formulas in the preparation of budget requests for state funds for four-year public colleges and universities and/or in the distribution of allocated state funds within the higher education system. There can be no assumed linkage between the budget preparation criteria and process and the allocation criteria and process. The participating parties in both of these processes vary from state to state. The formula may be designed and sanctioned by the university system itself, the higher education coordinating body of the state, the governor, the legislature, or any combination of the above.

2. Formulas continue to be structured primarily by functional classification areas that define the Educational and General portion of the budget. Instruction and Operation and Maintenance of Plant are the two categories most often included within the formula.

3. Base factors that drive the formula (in order of frequency of use) are student credit hour production, FTE enrollment, square feet/acreage, head count, FTE faculty/staff positions, and value of

inventory. The most frequently used base factor is either the previous year's budget or some portion of the present proposed budget. If FTE enrollment, head count, and student credit hour production are considered jointly, then the number of students within the educational system is by far the greatest factor in determining the budgeted amount.

4. The three computation methods defined by Dr. Francis Gross in 1973 continue to describe the varieties of calculations within formulas. The rate per base factor unit (RBFU) describes a given rate or factor multipled by an institutional descriptor or base factor. The percentage of base factor (PBF) utilizes a given percentage of another functional classification or budgetary portion. The base factor position ratio with salary rates (BFPR/SR) establishes a ratio (as faculty/students, faculty/supporting staff, staff/square foot, faculty/credit hours) on which to base the needed full-time equivalent positions to be multiplied by given salary rates. The base factor position ratio with salary rates (BFPR/SR) method is used most often in the area of Instruction, but the simpler rate per base factor unit (RBFU) and percentage of base factor (PBF) approaches are used more often overall. The RBFU approach is utilized particularly for calculating Operation and Maintenance of Physical Plant.

5. A variety of methods are being used that mitigate the power that enrollment has on the final formula figure. Use of head count, especially in the area of Student Services, buffering or decoupling, and capping of enrollment appeared in fifteen formula states. Buffering describes the various processes that limit the responsiveness of the budget to enrollment changes by redefining the amount of change that will be taken into account. For example, multiyear averages, limits on allowable or recognized growth or decline, and corridor or threshold approaches fall in this definition. Under typical corridor or threshold approaches, a range of enrollment is established, and only changes outside this range affect funding. Decoupling involves removing the linkage to enrollment altogether in as many parts of the formula as possible. Marginal costing is being used in only four states, whereas fixed and variable costing techniques appear to some extent in almost every formula. Six states utilize fixed and variable costing techniques in every portion of their formula. The inclusion of summer school hours in the FTE or SCH count used within the formula calculations appears to be increasingly popular.

6. The amount of the formula request actually funded by the state legislature varied from 73 percent to 100 percent for formulas in current usage. If the average over the last five years is compared with the present percentage, every formula state reporting has experienced an improvement in this percentage in this current funding period. Both New Jersey and Washington cited the low level of funding as contributing factors in their decision to abandon the formula budgeting method.

7. The portion of the budget included in the formula varied from state to state with an apparent movement to increase the items under

the formula calculations. States like Kentucky and Oregon that recently revamped their formula moved in the direction of more items, not less, included. The identification of "decision items" within the budget structure that highlight funding beyond continuation levels appears frequently. Many of these items would have formerly been outside the formula. Even equipment replacement and upgrades are now appearing in formulas.

8. Twenty-one states reported some technique in place that was designed to improve the quality of higher education by funding policy. Ten types of programs were identified:

a. Categorical one-time grants - grants given for a specific purpose to a specific area with no promise of continuation funding.
b. Percentage of budget total - Addition of a certain percentage of the total Educational & General (or operating) budget to create incentive monies for quality improvement.
c. Designated area - Funding specifically earmarked for particular academic disciplines to upgrade the quality of their offerings.
d. Competitive grants - Monies awarded to campuses or disciplines competing within the system with proposals to upgrade quality.
e. Program review - Required periodic review of academic programs that is in some way linked to continuation funding or to enhancement funding.
f. Student testing - An outcome measure of quality based on required testing of students on a preset instrument.
g. Other stated outcomes - In addition to or in place of student testing, any measure of quality that emphasizes outcomes or performance.
h. Student scholarships - The state funding of merit (not need based) scholarships to attract and keep academically talented students in state and in public higher education.
i. Centers of Excellence - The creation and funding of centers specifically designed to foster excellence and focus on quality issues.
j. Staffing - The establishment and funding of chairs or reward systems designed to attract and keep quality faculty.

Categorical one-time grants are the most popular tool for funding for quality, followed closely by "adds on" a given percentage of the budget for quality emphasis. The primary tools are input measures (as salary, staff, volumes in the library, the brightest students, equipment, etc.), not output measures. Only six states use student testing or other stated outcomes.

An air of competition appeared in many discussions of quality enhancement, from the emphasis of public education on merit scholarships to capture and keep the brightest students to prestigious faculty "chairs" to reward faculty.

9. Data from "comparable institutions" is identified as a new item in many formulas today. The establishment of higher dollar

factors, better student/faculty ratios, and more generous salaries within the formulas are attributed to data from "comparable institutions."

10. In comparing formulas from 1973, 1979, and 1985, the following findings emerged:

a. Fifteen states that were using formulas in the 1973 Gross study have used a formula approach since that time: Alabama, Arkansas, Colorado, Florida, Georgia, Louisiana, Maryland, Mississippi, Missouri, Ohio, Oklahoma, Pennsylvania, South Carolina, Tennessee, and Texas. (Nevada should have been included, making this number sixteen, but was not included in the 1979 study.) In these twelve years, four states (New Jersey, North Dakota, Washington, and Wisconsin) were identified as having discontinued the use of budget formulas, and nine (California, Connecticut, Idaho, Kansas, Kentucky, Massachusetts, Montana, New Mexico, and Oregon) appeared to have begun in this same period.

b. The "building blocks" of formulas—the base factors, the formula factors, and computational methods—appear to have remained structurally very similar, but their content or identity is changing. Head count was not reported in use as a base factor in any formula in 1973. By 1985 it was the measure of choice for Student Services, but student credit hour production and FTE enrollment remained the primary factor for other areas. The extent to which FTE enrollment, SCH production, and head count are utilized appears as great as the use of SCH production and FTE enrollment in 1973. In other words, the influence of enrollment on the size of the amount derived from the formula has not directly diminished. What has changed is the process that is followed to arrive at the base enrollment number. (See finding Number Five above.) Square footage/acreage appeared in all three studies as the base factor of choice for Physical Plant Operation and Maintenance. No clear shifts in the use of the three computational methods can be seen.

c. The presence in the formula of weights to differentiate costs on the basis of academic disciplines, institutional differences, and student or class levels appeared to change little in the data of the three studies, except for 1) an increase in 1985 of the use of weights for academic areas in the Instruction and Academic Support category, and 2) a decrease in 1985 of weights for institutional distinctions in Operation and Maintenance of Physical Plant.

d. The complexity of the formulas was examined by use of this Complexity Factor:

Number of functional classifications
plus
Number of base factors above number of functional classifications

plus
Number of weights applied to each base factor
plus
Number of formula factors above number of
base factors

This Complexity Factor showed that four states had increased the complexity of their formulas from 1973 to 1985, and two had decreased the complexity of their formulas. The two who showed a decrease in complexity were Colorado and Florida, two states that have recently revamped their formulas with new emphases. Florida has capped enrollment and is emphasizing quality, and Colorado has constructed a less-enrollment sensitive model.

e. More formula states continued to come from the Southeast than from any other region in 1973, 1979, and 1985. The gain in number of states by the West from one in 1973 to five in 1985 was the only sizable change in geographic distribution.

11. Evidence of interest and examination of budget formulas was apparent by the number of state studies with resulting changes that have occurred since 1980 (fourteen) and the number of studies presently underway (six). Many of these new formulas appear to share certain similarities:

a. the use of head count,
b. the use of data from comparable institutions to establish portions of the formula,
c. inclusion of more items under the formula,
d. use of summer school enrollments as a part of FTE or SCH count,
e. structured mechanisms within the formula for special requests, and
f. more factors reflective of differences in role and mission with particular emphasis on academic disciplines.

The use of formulas does not appear to be on the wane, as is sometimes conjectured in the light of decreasing enrollments. Rather states are searching for alternate ways of coming up with flexible funding mechanisms within the formula itself. Formula budgeting appears to be alive and well, increasing in complexity, and an effective budgeting method for the allocation of state funds.

IV. DESCRIPTION OF BUDGET FORMULAS IN SAMPLE STATES

Mississippi

The budget funding formula used in Mississippi to request and allocate state appropriations is developed by the Board of Trustees of State Institutions of Higher Learning. This governing board has responsibility for the eight state-supported universities, of which three are comprehensive universities. These eight are grouped by mission into three levels: Group I Comprehensive Universities (Mississippi State University, University of Mississippi and University of Southern Mississippi), Group II Urban University (Jackson State University), and Group III Regional Universities (Alcorn State University, Delta State University, Mississippi University for Women, and Mississippi Valley State University). These levels are then utilized to differentiate funding in the formula.

The use of a formula in preparing the budget has a long history in Mississippi. The present formula structure was developed in 1973 with a number of revisions since that date. A self-study in 1979 prompted changes in institutional groupings, fixed costs, the research and public service missions, and the self-generating income. The present categories and their formulations are:

1. Instruction. Total student credit hours (regular year plus summer) produced the preceding year (differentiated by lower, upper and graduate student levels and by three types of institutions) by field of study was divided into the amount of expenditures for instruction during the same period (differentiated in the same way) to equal the average student credit hour cost by levels and by subject area for the budget year (grouped by type of institution). This average student credit hour cost is then multiplied by the student credit hours produced in each discipline and level to obtain the instructional need.

2. Other institutional costs. This was computed as a percentage of the total amount calculated for Instruction. The amount for Instruction is specified to be a given percentage of the "Total Education and General Needs" (differentiated by institutional grouping). Then, Other Institutional Costs were calculated to represent the remaining percentage of this total. This area included libraries, general administration, operation and maintenance, staff benefits, and student services.

3. Research. This amount was budgeted as a percentage of instruction based on type of institutional grouping. An incremental increase was applied to the total of these three areas to represent inflation. Self-generating revenue, such as fees collected, grants, sponsored research, and income for sales and services connected with education and general activities, was subtracted from the total derived from the above formula to get the figure which represents the

legislative reguest. This revenue amount was calculated as a percentage of the total budget figure, and these percentages were established by institutional groupings.

In January of 1985, a study was completed in Mississippi that is likely to affect future formulas. Recommendations from that study included: 1) separate cost rates for master's and doctoral graduate programs, 2) use of comparative out-of-state faculty salaries or student-faculty ratios to prevent continual averaging, 3) research funding related to previous research expenditures, 4) separate calculation of physical plant operation and maintenance to reflect square footage, age of buildings, intensity of use, and utility costs, 5) recognition of equipment replacement costs, and 6) funds for campuses with extra remedial education loads.

Source: Mississippi Board of Trustees of State Institutions of Higher Learning, "An Analysis of the Budget Formula as the Basis for the Request and Allocation of State Appropriations for Mississippi's Institutions of Higher Learning," mimeograph, n.d.

New Mexico

The New Mexico Board of Education Finance is charged with the responsibility of recommending funding levels for all of New Mexico's institutions of higher education. Six four-year public institutions and fourteen two-year public institutions are included under their legislative mandate. There are two sets of formula instructions, one for four-year institutions and one for two-year institutions. Recommendations made for the 1985-86 budget separate from the formula included a percentage increase in compensation and other costs and numerous special projects. The instructions for four-year institutions for calculation of the formula-funded areas were as follows:

1. Instruction. A basic cost was determined by using a matrix approach that took into account academic discipline, size of institution, and level of instruction. A productivity ratio was applied to SCH production and multiplied by an average faculty compensation amount adjusted for other direct costs per SCH. The enrollment base used to calculate the Instruction component was an average over the last three years of student credit hour production. For the 1985-86 budget proposal, these years were 1981-82, 1982-83, and 1983-84. The 1985-86 budget proposal recommended that summer session be included in the Instruction computations as a regular part of this category.

2. Academic support. This area was calculated as a percentage of the Instruction amount and included funding for libraries and academic administration.

3. Student services. Included in this area for funding were admissions, registration/records, financial aid, counselling, placement, and special support services. A base factor was determined by computing a staffing level of 20 multiplied by the average salary with fringe benefits (1983-84 dollars) and multiplied by a fixed factor (0.541) for nonsalary support. This amount was assumed to provide for a minimum level of support for 1,500 students (computed as headcount). For each additional 150 students (headcount), an additional staff was added along with nonsalary support levels computed on the same basis as the base amount.

4. Institutional support. Central administrative services were funded by a percentage calculation of the previous year's total expenditures adjusted for inflation based on a sliding figure that recognized economies of scale. Percentage rates for Institutional Support were as follows:

8.5 percent - $ less than $10 million
5.0 percent - $ less than $20 million
3.25 percent - $ more than $20 million

5. Physical plant operations and maintenance. The square footage was divided by a set amount (9,500) to represent the number of staffing units needed to maintain and operate the building and

grounds. These staff units were multiplied by an intensity of use multiplier designed to take into account the effect of more students using facilities. This yielded the final number of staff positions to be budgeted. This number was then multiplied by the average salary with fringes plus a factor of 0.4 for materials support.

6. Utilities. An incremental set percentage was calculated (10 percent for 1985-86).

7. Building renewal formula. Not funded in the same way through the appropriations process, these dollars come through institutional land and permanent fund income and provide for substantial renovation of existing facilities. The formula is calculated on the basis of the building value (a set percentage) times building age adjusted for an average life cycle of fifty years.

The formula for two-year institutions in New Mexico uses the same calculations as the formula for four-year institutions described above, but the percentages, base salaries, and sliding scales differ. Research and public service are funded on a project basis budgeted separately.

Source: New Mexico Board of Educational Finance Commission on Postsecondary Education, Recommendations to the Legislature for Funding Higher Education in New Mexico Fiscal Year 1985-86, December 13, 1984.

Georgia

The history of formula utilization in Georgia began in 1963 when the Governor's Commission to Improve Education recommended establishment of a funding formula. Since that time, numerous revisions have occurred, the most recent of which became effective for the first time for the fiscal year 1984. The results of the work of the Study Committee on Public Higher Education Finance (created by joint agreement of the Board of Regents, the General Assembly and the Governor) were published in a report entitled "Formula for Excellence: Financing Georgia's University System in the 80's" and formed the basis for this 1984 revision. This new budgeting formula includes these functional areas for funding:

1. Instruction and research. Programs included in this category included general academic instruction, vocational and technical instruction, community education, preparatory and adult basic education, and research that was separately budgeted to produce research outcomes. The enrollment figures used for calculations in this formula were the previous academic year's actual enrollment. The number of academic positions required was calculated by dividing the quarter credit hours produced (for each of five groupings of academic disciplines by three instructional levels - lower, upper, graduate) by an instructional productivity factor. These academic positions were then multiplied by the average salary rate (computed for each of the five program area groups to obtain the amount needed for academic salaries. Instructional support positions were then calculated as a ratio of the academic positions. (This ratio varied by five program groups.) This number of positions was multiplied by the average salary rate for each of five groups to obtain the amount needed for instructional support salaries. These two salary amounts were then combined and multiplied by a percentage factor to obtain an operating expense amount to be added to the salary figures. An amount for research was allotted that equaled the amount required for graduate instruction. A separate formula was utilized for community education based on the production of continuing education units. The cost of community education programs was expected to be shared equally by the State and the participants. Tuition and fee income was expected to generate twenty-five percent of instructional costs, exclusive of amounts for community education and public service (next category).

2. Public service. Programs in this area included activities primarily intended to be noninstructional and that serve individuals and groups external to the institution. These were to be funded on a programmatic need basis. A basic minimum level of support was assured, with supplemental funding to be determined on a continuation (plus price adjustment) and specific proposal request basis.

3. Academic support. Programs in this category included libraries, museums, audio-visual services, computing support, ancillary support, and academic administration. A percentage of the amounts budgeted for instruction, research, and public service determined this need.

4. Student services and institutional support. The amount needed to fund these two functions was determined by taking a percentage of the amounts budgeted for instruction, research, and public service.

5. Operation and maintenance of plant. This budgeted amount was determined through three formula components. First, a dollar amount per square foot was multiplied by the square footage of resident instruction buildings. Second, a major repair fund and rehabilitation component was calculated at a set percentage of current replacement value of all university system buildings. Third, an incremental increase in utilities was to be figured as a separate component.

6. Quality improvement. A set percentage (one percent) of the total formula-generated amount was set aside for quality improvement funding. The expenditure of this amount was to be determined by a plan established by the Board of Regents to fund short-term focused strategies.

Source: Study Committee on Public Higher Education Finance, "Formula for Excellence: Financing Georgia's University System in the '80s" (Atlanta, Georgia: September 1982).

Oregon

A new budget system for Oregon higher education was approved in December 1984. This new model had been developed in response to criticisms that the old budget develoment process (also a budget formula) was not responsive to institutional mission and uniqueness, was not a persuasive tool with the state legislature, and was too complex and difficult to understand. Called the BAS Model (Budget Allocation System), this system identified the various inputs that were required in budget building and added them together in a "building block" approach. Developed along functional lines, the categories were:

1. Instruction. The first factor in the instruction area was construction of a productivity ratio by discipline (twenty-five) and by level of instruction (broken down into lower division by college, university, or Oregon Institute of Technology, upper division by college, university, or Oregon Institute of Technology, masters level, and doctoral level -- eight levels in all). A faculty productivity ratio is defined as the total credit hours produced by a full-time instruction faculty member in an academic quarter. For purposes of this formula lower- and upper- division credit hours taken by undergraduates are counted at the level of the course, whereas masters and doctoral credit hours are counted at the level of the student. These productivity ratios were derived from actual data from nine out-of-state institutions judged to be comparable to Oregon's large institutions. A "small school differential" lowering the productivity ratio by 20 percent was applied to nine disciplines judged to have lower credit hour production at small institutions. (Plans are already underway to use two sets of comparative institutions that differentiate by size for faculty productivity ratios in future budget years.) These faculty productivity ratios were applied to the actual or projected Oregon institution credit hours by level of instruction to gain the number of FTE faculty required for each discipline. For universities only, 12 percent of the total teaching FTE is ranked at the graduate assistant level.

The second step in construction of instruction costs was the development of average faculty salaries (rank mixed appropriately) by discipline (twenty-five). Oregon elected to use a national salary survey compiled by Oklahoma State University for these averages and rank mixes, adjusting the salaries upward by six percent to cover state reimbursement for employee's share of retirement system costs. Then, again reflecting national averages, the college and Oregon Institute of Technology salaries were calculated at only 87 percent (as opposed to the 100 percent funding for the universities).

The dollar amount for faculty was then determined by multiplying the total teaching FTE (88 percent for universities and 100 percent for others) in each discipline and level of instruction by the average salary for each discipline and each type of institution. Twelve percent of the university FTE faculty was multiplied by the salary average for a graduate assistant - the same for all disciplines.

The dollar request for support staff was calculated at one per ten FTE faculty for technical support staff and at one per five FTE faculty for administrative/clerical support staff. The salary to be used was specified as a step on the existing salary range. Contributions for expenses related to payroll were calculated by adding in four set percentages of salaries differentiated in four categories: faculty at universities, faculty at colleges and Oregon Institute of Technology, graduate assistants, and support staff. Services and supplies were provided through a percentage of instruction salaries (10 percent), prior to the addition of expenses related to payroll. Staff development also was calculated as a set percentage of instruction salaries prior to the addition of payroll expenses — 2 percent for universities and 2.25 percent for colleges and Oregon Institute of Technology.

The College of Veterinary Medicine of Oregon State University was budgeted under Instruction, but on an incremental basis by program that was not formula determined as defined by the BAS Model.

2. Research. A set percentage of instructional faculty salaries including the payroll expenses provided an allowance for research. For universities, the percentage was 4 percent. For others, the percentage was one percent.

3. Academic support. Categories included in this area were libraries, media and audiovisual services, museums, and offices of academic deans and division heads. Museums were funded on an incremental basis outside the formula. Expenses for academic deans and division heads were budgeted as a set percentage (8 percent) of total instructional faculty salaries. Media services and other instructional support activities were budgeted through an application of a percentage factor that varies with FTE student enrollment to the total instruction budget of the BAS Model.

The library portion of the budget was divided into five parts: holdings, acquisitions, staffing, binding, and services and supplies. An adequacy measure of library holdings was determined by a formula using a base number of volumes plus an established minimum number of volumes per faculty, per student, and per program (differentiated by level). The number of volumes acquired each year then could be a set percentage (5 percent) of this adequate level of holdings. The average cost allowed per volume was set by type of institution, and the number of volumes multiplied by this average cost yielded a dollar amount. Staffing was funded by position with the number of FTE allowances determined as follows: minimum of ten, plus four-term cumulative headcount students divided by 600, plus .50 FTE per masters program, plus 2.0 FTE per doctoral program. The classification of the staff positions for budgeting purposes involved a set percentage for academic, classified, and student levels, with average salaries at each level used to calculate the dollar amount. Binding was calculated as a percentage of the acquisition budget, and services and supplies were calculated as a percentage of the composite formula budget for staffing, acquisitions, and binding.

4. Student services. This portion of the formula employed a fixed base concept that recognized a core cost regardless of enrollment and then added variable amounts dependent on headcount. The dollar amount per headcount varied by ranges and recognized differences in small schools and large schools.

5. Physical plant operation and maintenance. Building maintenance costs were budgeted by applying current valuations of structures against a factor weighted by type of construction and then weighted for presence or absence of air conditioning. Building rehabilitation and remodeling was based on a set percentage of valuation, and utility distribution system maintenance was calculated as a set percentage of the building maintenance costs. Janitorial service, window washing , and grounds maintenance were budgeted by FTE positions allowed per square foot or per square acre (differentiated by intensity of use), and funded at a set established step on the pay range. Services and supplies in this area were budgeted at a set amount per staff position, differentiated by building or grounds responsibility.

6. Institution support. A fixed base cost regardless of size was established. Added to this was then an additional amount dependent on headcount (fall term student headcount times set dollar amount) and FTE faculty and staff (FTE times set dollar amount). Then, a set percentage of the total BAS Model budget for all functions except institution support was included.

7. Equipment (temporary category). Still in process was the formula for the equipment portion of this budgeting model. Categories for equipment types had been identified, each with an estimated useful life. Equipment needs for each discipline were still under review. Plans called for the formula to involve an amount of money per faculty member for each discipline calculated to represent the particular equipment needs of that discipline. When complete, this portion of the formula will be calculated in the Instruction area.

Not included in this BAS Model were extension and public services, Oregon Health Sciences University, institution-specific resources, statewide public service divisions, self-support activities, and the Veterinary Medicine College at Oregon State University (mentioned earlier).

Source: Oregon Department of Higher Education, "Final Approval, Budget Allocation System (BAS) Model," mimeograph, December 8, 1984.

Tennessee

The Tennessee Higher Education Commission has responsibility for submitting funding requests for all twenty-three institutions of higher education in Tennessee (nine universities, ten community colleges, and four state technical institutes). The formula utilized for this budget request is also used by the Tennessee Higher Education Commission for distributing the lump sum actually appropriated. It is not used as a line-item budget for the institutions or the systems involved, but rather the expenditure of the funds on a particular campus is left to the discretion of the institutions and their governing boards. For the 1985-86 year, changes were made to the instructional component of the formula. Previously, this area was based on historic cost analysis by level and by discipline, with an adjustment for Southern Regional Education Board comparable institution averages. For 1985-86 this was changed to a faculty/staff ratio and salary was calculated with data from ten "peer" institutions. The categories funded under the formula for 1985-86 were:

1. Instruction and academic support. Student/faculty ratios by discipline (twenty-nine) and by level (five: lower level, upper level, masters, doctoral, and law) were established from ten comparable institutions (matched for size, program mix, and other factors). Projected student credit hour production converted to an FTE enrollment was then divided by the student/faculty ratio factor to derive the number of faculty positions to be funded. This was multiplied by an average salary from the same peer institutions referenced in the ratio calculation. Adjustments were specified for federal vocational technical funds, graduate assistants, equipment, clerical and supply requirements, and an engineering supplement for one institution.

Library support was calculated by a formula based on library costs per level of instruction in comparable states. Thus, each projected student credit hour at each level was multiplied by the appropriate cost factor by level to obtain the cost for library support. Rates for student credit hours generated in the sciences and technologies were adjusted upward by 20 percent.

Instructional support activities not covered by the traditional student credit hour formula, such as farms, were budgeted in this category as a percentage of instructional expense by type of institution.

2. Physical plant operation and maintenance. An average rate per square foot was derived for educational and general square footage. This was multiplied by the square footage of each campus, adjusted to reflect intensity of use and age of facilities. Buildings "mothballed" due to underutilization could still be included in the formula.

3. Institutional support. Included in this category were the president's office, safety and security, business office, personnel

office, catalogs, and information. A base rate was established ($125,000), plus 11.5 percent of the first $12 million of educational and general expenditures. For institutions with amounts over $12 million, 8.3 percent of this amount over $12 million was added.

4. Student services. The amount budgeted for this category was calculated on the basis of a set amount ($125) per head count student plus a set amount ($125) per FTE student.

5. Research. Budgeted for universities only, half of this amount was based on historical expenditures and half on outside research awards.

6. Public service. Each institution received a base amount ($35,000) plus a set percentage of instructional costs (1 percent). The University of Tennessee Knoxville campus received the base amount plus only .25 percent of the instructional costs, and Memphis State University received the base amount plus 1.75 percent of the instructional costs.

7. College preparatory programs. Projected credit hours in remedial and developmental instructional activities were determined on the basis of the number of first-time freshmen with ACT scores below 12 or between 12 and 15. A dollar amount per credit hour was then multiplied by the anticipated credit hours.

8. Equipment replacement supplement. A set percentage of the dollars invested in equipment inventory (5 percent) was calculated to supplement equipment budgets.

9. Other components. Staff benefits, student aid, special allocations, desegregation allowances, longevity pay, and inflation factors were added as non-formula components.

10. Instructional evaluation. Up to five percent of total appropriations to an institution were given based on a point system verifying instructional evaluation activities designed to improve academic quality. These points were based on:

a. Program accreditation--Up to 25 points could be awarded based on the percentage of eligible programs accredited.

b. Program field evaluation--Up to 30 points could be awarded based on evaluation of academic programs at least once within a five year period (10 points) and on demonstrated improvement or existence of high quality in those programs (20 points).

c. Institution-wide education outcomes--Up to 25 points could be awarded based on assessment of educational outcomes--5 points for measurement and 20 points for demonstration of above-average performance or improvement in value-added performance. For technical institutes and portions of community college programs, the criteria for measurement was specified as placement in appropriate employment.

d. Instructional improvement based on referent group survey--Up to 10 points could be awarded for measurement of opinions from enrolled students, formerly enrolled students, or community members/employers about the quality of academic programs and services.

e. Planning for instructional program improvement--Up to 10 points could be awarded for timely submission of institutional plans for instructional self-evaluation and improvement.

These earned points translate into a percentage of the total allowable percentage (5 percent) of the educational and general allocation for each campus.

Sources: Tennessee Higher Education Commission, "Appropriations Formula, Academic Formula Units for FY 1985-86," mimeograph, n.d.; "Instructional Evaluation Variable (Draft)," n.d.; "Synopsis of Revisions: Higher Education Formula Funding FY 85-86," n.d.

V. DEFINITION OF TERMS COMMONLY USED IN BUDGET FORMULAS

Unless otherwise noted, the following definitions used in this study were developed by the National Center for Higher Education Management Systems (Cloud 1980).

Average Full-Time Equivalent (FTE) Salary. The mean salary paid to all employees or a specific category of employees, for a comparable period of time or as of a given point in time, and equated to a full-time basis.

Budget Formula. A decision rule of unspecified complexity and domain, imposed on institutions of higher education by state agencies and used as an aid to calculation for generating and reviewing institutional budget requests or parts thereof (Meisinger) or as an aid to calculation for distribution of institutional allocations or parts thereof.

Cost Data. The historical record of how much is spent for any given set of activities (Allen and Topping).

Course Level. The level of offering for instructional courses at postsecondary-education institutions. Course levels are assigned relative to the intended degree of complexity or expected level of student comprehension, rather than the student level of those enrolled in the course. Course levels generally include lower division, upper division, and graduate/professional.

E & G Expenditures or E & G Budget. Includes expenditures or budgeted amounts related to Educational and General purposes - all operations related to instruction, research, public service, academic support, student services, institutional support, operation and maintenance of plant, and scholarships and fellowships.

Enrollment Counts. The duplicated number of students enrolled in courses as of an official census date, by unit/department of instruction or by student program.

Formula Computations or Calculations. Three basic computational methods identified by Gross in 1973 that are used in budget formulas to calculate resource requirements. They are:

1. Rate per base factor unit (RBFU) -- given rate or factor multiplied by institutional descriptor or base factor.
2. Percentage of base factor (PBF) -- given percentage of another functional classification or budgetary portion.
3. Base factor position ratio with salary rates (BFPR/SR) -- given position ratios (faculty/student, faculty/supporting staff, staff/square foot, etc.) are used to determine FTE positions which are multiplied by given salary rates to calculate total salary requirements (Gross 1982).

Formula Factors. Pre-established factors specified in a budget formula that are applicable to all institutions or types of institutions. (Gross 1973)

Full-Time Equivalent (FTE) Counts. A constructed count of the equivalent number of full-time students enrolled in courses as of an official census date, by unit/department of instruction or by student program.

Functional Classification. The categorization of institutional expenditures according to the purpose for which the costs are incurred. The functional categories generally recommended are: instruction, research, public service, academic support, student services, institutional support, operation and maintenance of plant, scholarships and fellowships, mandatory transfers, nonmandatory transfers, auxiliary enterprises, hospitals, and independent operations. The definitions of functional classifications given by the HEGIS Financial Reporting Guide: 1980 Edition are:

> Instruction--expenditures for all activities that are part of an institution's instruction program. Expenditures for credit and noncredit courses; academic, vocational, and technical instruction; remedial and tutorial instruction; and regular, special, and extension sessions should be included. Expenditures for departmental research and public service that are not separately budgeted should be included in this classification. ... expenditures for department chairperson, for whom instruction is still an important role, are included in this category.
>
> Research--expenditures for activities specifically organized to produce research outcomes, whether commissioned by an agency external to the institution or separately budgeted by an organizational unit within the institution. Subject to these conditions, it includes expenditures for individual and/or project research as well as for institutes and research centers.
>
> Public Service--funds expended for activities that are established primarily to provide noninstructional services that are beneficial to individuals and groups external to the institution. These activities include community service programs (excluding instructional activities) and cooperative extension services.
>
> Academic Support--funds expended primarily for support services for the institution's primary missions: instruction, research, and public service. It includes (1) the retention, preservation, and display of educational materials, for example, libraries, museums, and galeries; (2) services that directly assist the academic functions of the institution, such as demonstration schools associated with a department, school, or college of education; (3) media, such as audiovisual services, and technology, such as computing support; (4) academic administration (including academic deans but not department

chairmen) and personnel development providing administrative support and management direction to the three primary missions; and (5) separately budgeted support for course and curriculum development.

Libraries--expenditures for organized activities that directly support the operation of a cataloged or otherwise classified collection of published material. The Libraries entry includes expenses for the pubchase of books. ("Libraries" is also a subcategory of Academic Support.)

Student Services--funds expended for offices of recruitment, admissions, and the registrar, and those activities whose primary purpose is to contribute to students' emotional and physical well-being and to their intellectual, cultural, and social dcevelopment outside the context of the formal instruction program. It includes expenditures for student activities, cultural events, student newspapers, intramural athletics, student organizations, intercollegiate athletics (if the program is operated as an integral part of the department of physical education and not as an essentially self-supporting activity), counseling and career guidance (excluding informal academic counseling by the faculty), student aid administration, and student health services (if not operated as an essentially self-supporting activity).

Institutional Support--expenditures for (1) central executive-level activities concerned with management and long-range planning of the entire institution, such as the governing board, planning and programming, and legal services; (2) fiscal operations, including the investment office; (3) administrative data processing; (4) space management; (5) employee personnel and records; (6) logistical activities that provide procurement, storerooms, safety, security, printing, and transportation to the institution; (7) support services to faculty and staff that are not operated as auxiliary enterprises; and (8) activities concerned with community and alumni relations, including development and fund raising.

Operation and Maintenance of Plant--all expenditures of Current Funds for the operation and maintenance of physical plant. ... It includes all expenditures for operations to provide service and maintain grounds and facilities. Also included are utilities, fire protection, property insurance, and similar items.

Head Counts. The unduplicated number of students as of an official census date.

State Appropriation. All unrestricted appropriations and restricted appropriations to the extent expended for current operations (excluding scholarships and fellowships) received from, or made available to, the institution through acts of the state legislative body.

Student Credit Hour (SCH). A unit of measure that represents one student engaged in an activity for which one hour of credit toward a degree or other certificate is granted upon successful completion.

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APPENDIX

TABLE I

CALCULATION OF FUNCTIONAL CLASSIFICATIONS BY STATE OF 1985 HIGHER EDUCATION BUDGET FORMULAS

State	Instruction and Academic Support	Research and Public Service	Institutional Support	Student Services	Physical Plant Operation	Libraries
Alabama	Total budget	Total budget	Total budget excluding administration	Total budget	Total budget	Total budget
California (CSU)	Total budget		Total budget	Total budget	Total budget	Staff
Colorado	Salaries		Administrative Staff & Student Aid	Total budget	Total budget	Operations, Learning materials
Connecticut	Total budget				Custodial, Grounds Maintenance, Building Maintenance	Services
Florida	Staff	Staff			Total budget	Holdings
Georgia	Total Instruction & Academic Support	Total budget	Total budget	Total budget	Total budget Utilities, Repair & Rehabilitation	Total budget
Idaho (Allocation formula only)	Instuction	Total budget	General Administration	Total budget	Total budget	Total budget
Illinois (Community colleges only)	Total Academic and Support budget					
Kansas	Enrollment adjustment		Enrollment adjustment	Enrollment adjustment	Enrollment adjustment & Campus Security	Enrollment adjustment

TABLE I (Continued)

State	Instruction and Academic Support	Research and Public Service	Institutional Support	Student Services	Physical Plant Operation	Libraries
Kentucky	Total budget	Other Research, Other Community Service	Total budget	Total budget	Total budget	Libraries, Museums, Galleries
Louisiana	Total budget				Total budget	
Massachusetts	Total budget					
Michigan (Community colleges only)	Total budget		Total budget	Total budget	Total budget	
Minnesota	Total budget					
Mississippi	Total budget	Research	----------Other Institutional Costs----------			
Missouri*	Total budget	Total budget	Total budget	Total budget	Total budget	Total budget
Montana	Total budget	Total budget	Total budget Combined with Student Services	Total budget Combined with Institutional Support	Total budget	
Nebraska (Community colleges only)	Total budget					
Nevada	Instruction					
New Mexico	Instruction, Academic Administration		Total budget	Total budget	Total budget & Utilities	Total budget
Ohio	Total budget		Total budget	Total budget	Total budget	Total budget
Oklahoma	Total budget					

TABLE I (Continued)

State	Instruction and Academic Support	Research and Public Service	Institutional Support	Student Services	Physical Plant Operation	Libraries
Oregon	Total budget	Research	Total budget	Total budget	Total budget	Total budget (Under Academic Support)
Pennsylvania (Allocation formula only)	Instruction, Research, & Public Service Combined	Combined under Instruction & Academic Support	Institutional Support, Student Services, & Library Support Combined	Combined with Instructional Support	Total budget	Combined Institutional Support
South Carolina	Total budget	Total budget	Total budget	Total budget	Total budget	Total budget (under Academic Support)
South Dakota (Allocation formula only)	Total budget					
Tennessee	Total budget	Total budget	Total budget	Total budget	Total budget	Total budget
Texas	Faculty Salaries, Departmental Operating Expenses, Instructional Administration, Faculty Development Leaves	Organized Research	General Institutional Expenses	Student Services & General Administration	Plant Support Services, Campus Security, Building Maintenance, Custodial Services, Grounds Maintenance	Total budget
Virginia	Faculty & Staff Positions		Staff	Staff	Staff	Staff, Holdings
West Virginia (Allocation formula only)	Instruction		Total budget	Total budget	Total budget	Total budget
TOTALS	30	12	20	18	22	18

*Missouri: Academic Support, Institutional Support, and Student Services are combined into General Support.

TABLE II

1985 FORMULAS FOR BUDGETING OR ALLOCATING FUNDS FOR INSTRUCTION AND ACADEMIC SUPPORT IN PUBLIC HIGHER EDUCATION

States	Line Item	Base Factors	Formula Factors	Method of Calculation	Differentiation		
					Academic Areas	Instructional Levels	Type of Institution
Alabama (Allocation formula only)	Instruction	Actual SCH (base Year) or 3 year average SCH weighted by academic area	Established dollar factor	RBFU	14	3	
	Academic Support	Instruction budget	Percentage	PBF			
California	Instructional Salareis & Benefits	Projected SCH Faculty positions	Student/faculty ratio Faculty/staff ratio	BFPR/SR BFPR/SR	7	3	
	Academic Support	Projected FTE students	Workload measure	RBFU			
Colorado	Salaries	Resident student FTE	Student/faculty ratio Faculty salaries based on comparable institutions nationwide	BFPR/SR			
Connecticut	Instruction	SCH over 3 year average	Student/faculty ratio & salary rate plus weighted mission support factor	BFPR/SR	50	5	4
Florida	Instructional salaries	Projected SCH enrollment by level	Teaching productivity factor by level Average salary based on historical data	BFPR/SR		4	
	Research positions	Number of teaching positions	Research/teaching ratio	BFPR/SR			
	Academic Advisement positions	Projected FTE students	Position ratio to FTE students	BFPR/SR			
Georgia	Instruction	SCH of previous year	SCH/faculty ratio X average salary SCH/supporting position ratio X average salary	BFPR/SR	5	3	

TABLE II (continued)

States	Line Item	Base Factors	Formula Factors	Method of Calculation	Differentiation: Academic Areas	Differentiation: Instructional Levels	Differentiation: Type of Institution
Georgia (Continued)	Operating Expenses	Salary amounts	Percentage	PBF			
Idaho	Instruction	Weighted SCH on previous year's enrollment	Established percentage factor	PBF	4	4	
Illinois (Community colleges only)	Total Academic budget	Projected SCH production	Adjusted cost factor per SCH based on historical data	RBFU			
Kansas	Instruction--enrollment adjustment	Changes in SCH enrollment	Established dollar factor	Fixed + RBFU	24	4	
Kentucky	Faculty salaries	FTE student enrollment (either projected or 3 year average)	Student/faculty ratio and average salary from "benchmark" institutions	BFPR/SR	16	6	Included in Instructional Level
	Fringe benfits	Faculty Salary budget	Set percentage	RBFU			
	Departmental Operating Expenses	SCH	Establish factor per SCH	RBFU			
	Institutional Mission Factor	Institutional budget	Set percentage	PBU			Yes
Louisiana	Complete Academic budget (all functional classifications except Plant O & M	SCH of previous year	Dollar factor based on SREB comparisons SCH/faculty ratio	BFPR/SR (minimum appropriation)	2	14	
Massachusetts	Maintenance (all functional classifications)	Previous year's budget	Salary increases	Base + PBF			
		SCH enrollment changes (corridor)	Set factor	RBFU			3
		Square footage	Dollar factor	RBFU		5	

TABLE II (continued)

States	Line Item	Base Factors	Formula Factors	Method of Calculation	Differentiation: Academic Areas	Differentiation: Instructional Levels	Differentiation: Type of Institution
Michigan (Community colleges only)	Instruction	Student contact hours	Cost per student contact hour	RBFU	6		
	Equipment replacement	Equipment need	Percentage	PBF			
	Instructional support	Amount budgted for Instruction	Percentage	PBF			
Minnesota	Instruction--Direct & Indirect Costs	FTE enrollment 2 years previous	Average cost per student	RBFU	3	4	2
Mississippi	Instruction	SCH of previous year	Rates per credit hour	RBFU	Yes	3	3
Missouri	Instruction	Previous year's budget	Percentage increase	PBF			
Montana	Instruction	FTE budgeted enrollment	Faculty productivity factor and average faculty salary for each campus	BFPR/SR	Yes	3	Yes
	Instructional support	FTE budgeted enrollment	Established $ rate	RBFU			
Nebraska (Community colleges only)	Instruction	Weighted FTE students	Proportion of system-wide weighted FTE students X appropriated amount	Base + PBF	3		
Nevada	Faculty positions	Projected FTE enrollment	Student/faculty ratio and average salaries	BFPR/SR	4		2
	Classified positions	FTE faculty positions	Staff/faculty ratio and average salary	BFPR/SR			
	Operating expenses	FTE faculty positions	Incremental increase per faculty position	RBFU			

TABLE II (continued)

States	Line Item	Base Factors	Formula Factors	Method of Calculation	Differentiation: Academic Areas	Differentiation: Instructional Levels	Differentiation: Type of Institution
New Mexico	Instruction	SCH production averaged over last 3 years	Faculty productivity ratio + average faculty salary adjusted to reflect other costs	BFPR/SR	Yes	Yes	Yes
	Academic Administration	Amount budgeted for Instruction	Set percentage factor	PBF			
Ohio	Departmental Instruction & Research	Weighted SCH enrollment	Percentage by discipline of "first section" hours (fixed) X factor	Base + RBFU	16	5	Day/night sections + size of campus
	Faculty Salaries		Percentage by discipline of "other sections" X factor (variable)				
Oklahoma	Instruction (includes Library, General Administration, & Physical Plant)	Weighted FTE enrollment projections	Cost per student per program + faculty/student ratio and average salary levels included	RBFU	Yes	4	25
Oregon	Instructional faculty	SCH by level of instruction	Weighted faculty productivity ratio and average salaries by discipline (from comparable institutions)	BFPR/SR	25	8	3
	Support staff	FTE faculty	Faculty/staff ratio and average salary	BFPR/SR			
	Services, supplies, payroll expenses, staff development	Instruction salary amount budgeted	Percentage	PBF			4
	Academic deans & division heads	Instruction salary amount budgeted	Percentage	PBF			
	Media services & instructional support	Instruction salary amount	Percentage that varies with FTE student enrollment	PBF			

TABLE II (continued)

States	Line Item	Base Factors	Formula Factors	Method of Calculation	Differentiation: Academic Areas	Differentiation: Instructional Levels	Differentiation: Type of Institution
Pennsylvania	Instruction, Research & Public Service	Total SCH weighted by discipline and level compared to 3 year average weighted FTE	Matrix percentage on systemwide basis	PBF	46	4	14
South Carolina	Instruction	FTE students for previous year	Student/faculty ratio	BFPR/SR	41	5	3
	Instructional support	Faculty salaries	Percentage	PBF	41	5	3
South Dakota (Allocation formula only)	Instruction	SCH of previous year (weighted)	SCH/FTE faculty ratio + departmental research factor + faculty/department administration yielded FTE faculty needed. Average salary X FTE personnel	BFPR/SR	35	4	
Tennessee	Instruction & Academic Support	Projected FTE enrollment	FTE student/faculty ratio by discipline and by level (from comparable institutions) X average salary at comprable institutions. Adjustments made for support	BFPR/SR	29	5	
Texas	Faculty salaries	SCH for previous year	Rate weighted for discipline and instruction	RBFU	19	5	
	Departmental operating expense	SCH for previous year	Rate weighted for discipline and instruction	RBFU	19	5	
	Instructional administration	Faculty salaries	Percentage	PBF	19	5	

TABLE II (continued)

States	Line Item	Base Factors	Formula Factors	Method of Calculation	Differentiation: Academic Areas	Differentiation: Instructional Levels	Differentiation: Type of Institution
Texas (continued)	Faculty development leaves	Faculty salaries	Percentage	PBF	19	5	
Virginia	Faculty salaries	Projected FTE students	Student/faculty ratio	BFPR/SR	Yes	4	
West Virginia	Classified positions	FTE faculty positions	Faculty/staff ratio	BFPR/SR			Yes
	Teaching & Research Administration positions	FTE faculty positions	Faculty/staff ratio	BFPR/SR			
	Off-campus academic Instruction & summer session	Projected FTE students	Student/faculty ratio	BFPR/SR	Yes	4	

TABLE III

1985 FORMULAS FOR BUDGETING OR ALLOCATING FUNDS FOR RESEARCH AND PUBLIC SERVICE IN PUBLIC HIGHER EDUCATION

States	Line Item	Base Factors	Formula Factors	Method of Calculation	Differentiation		
					Academic Areas	Instructional Levels	Type of Institution
Alabama	Research	Instruction & Academic Support budget + previous year's budgeted Research amount	Percentage	PBF			
	Public Service	Instruction & Academic Support budget	Percentage	PBF			
Florida	Staff	Faculty salaries	Percentage	PBF			
Georgia	Research	Budget amount for graduate level Instruction	Percentage	PBF			
	Public Service	Program	Fixed factor	RBFU			
Idaho	Research & Public Service	System total	Percentage	PBF			
Kentucky	Other Research	Monies received from federal & private gifts, grants & contracts	Set percentage	PBF			
	Other Community Service	Base level of support	Add-ons for specific missions and mandated program	Base + RBFU			
Mississippi	Research	Instruction budget	Percentage	PBF			3
Missouri	Research & Public Service	Instruction budget	Percentage	PBF			3

TABLE III (continued)

States	Line Item	Base Factors	Formula Factors	Method of Calculation	Differentiation: Academic Areas	Differentiation: Instructional Levels	Differentiation: Type of Institution
Montana	Research & Public Service	Previous year's Research & Public Service budget	Percentage	PBF			
Oregon	Research	Faculty Salaries	Percentage	PBF			2
South Carolina	Public Service	Previous year's expenditure for Public Service	Percentage	PBF			
	Research	Previous year's expenditure for Research	Percentage	PBF			
Tennessee	Research	Historical Research expenditures Outside research awards	Percentage	PBF			
	Public Service	Instruction budget	Base + percentage of instructional costs	Base + PBF		Yes	
Texas	Organized Research	Faculty salaries Research funds expended previous year	Percentage	PBF			

TABLE IV

1985 FORMULAS FOR BUDGETING OR ALLOCATING FUNDS FOR INSTITUTIONAL SUPPORT IN PUBLIC HIGHER EDUCATION

States	Line Item	Base Factors	Formula Factors	Method of Calculation	Differentiation		
					Academic Areas	Instructional Levels	Type of Institution
Alabama	General Institutional Support (excluding Administration)	Total E & G budget (excluding Institutional Support)	Percentage	PBF			
California	Institutional Support	Assorted workload measures	Established cost factors	RBFU			
Colorado	Administrative staff	Number of students on state and/or federal financial aid	Staff/administration ratio Staff/student ratio (6 staff minimum)	BFPR/SR			
Georgia	Institutional Support (combined with Student Services)	Amount budgeted for Institutional Research & Public Service	Percentage	PBF			
	General Administration	Total dollars appropriated	Percentage that varies with dollar amount	PBF			
Kansas	Institutional Support & Academic Administration--enrollment adjustment	Total of Instruction, Libraries, Student Services, & Campus Security	Percentage based on cost analysis	PBF			
Kentucky	Institutional Support	Total E & G budget	Percentage factor	PBF			
Michigan	Institutional Administration	Actual total E & G budget (base year)	Percentage factor	PBF			

TABLE IV (Continued)

States	Line Item	Base Factors	Formula Factors	Method of Calculation	Differentiation		
					Academic Areas	Instructional Levels	Type of Institution
Kansas	Institutional Support & Academic Administration--enrollment adjustment	Total of Instruction, Libraries, Student Services, & Campus Security	Percentage based on cost analysis	PBF			
Kentucky	Institutional Support	Total E & G budget	Percentage factor	PBF			
Michigan	Institutional Administration	Actual total E & G (base year)	Percentage factor	PBF			3
Mississippi	Other Institutional Costs (includes Libraries, General Administration, Plant O & M, & Student Services)	Total amount budgeted for instruction	Percentage	PBF			
Missouri	General Support--part of Other Support	Previous Year's budget amount	Percentage	PBF			
Montana	Institutional Support--part of Other Support	FTE budgeted enrollment	Established dollar factor	RPBU			
New Mexico	Institutional Support	Previous Year's E & G budget--expenses adjusted for inflation	Percentage rate scaled by size of institution to recognize economies of scale	PBF			
Ohio	Support Costs	FTE enrollment	Base amount + factor X FTE enrollment increase or buffered decrease	Base + RBFU			

TABLE IV (continued)

States	Line Item	Base Factors	Formula Factors	Method of Calculation	Differentiation: Academic Areas	Differentiation: Instructional Levels	Differentiation: Type of Institution
Oregon	Institutional Support	Fixed base amount + student headcount & FTE faculty and staff + Total established budget excluding Institutional Support	Set factor X headcount Set factor X FTE headcount Percentage	RBFU PBF			
Pennsylvania	Institutional Support, Student Services & Academic Support	Total FTE compared to 3 year average FTE	Matrix percentage on systemwide basis	PBF	46	4	14
South Carolina	Institutional Support	Sum of other budgeted areas (fixed minimum)	Percentage	PBF			
Tennessee	Institutional Support	E & G expenditures	Base + percentage of expenditures	Base + PBF			
Texas	General Institutional Expense	Previous Year's SCH	Factor weighted to reflect increasing cost with increasing enrollment (minimum level guaranteed)	RBFU			
Virginia	Institutional Support	FTE faculty FTE students	Fixed factor X variable amount reflecting size (differed by type of institution and by FTE Students/headcount ratio)	Base + BFPR/SR			
West Virginia	Institutional Support	Amount budgeted for Instruction, Research & Public Service	Percentage	PBF			

TABLE V

1985 FORMULAS FOR BUDGETING OR ALLOCATING FUNDS FOR STUDENT SERVICES IN PUBLIC HIGHER EDUCATION

States	Line Item	Base Factors	Formula Factors	Method of Calculation	Differentiation		
					Academic Areas	Instructional Levels	Type of Institution
Alabama	Student Services (combined with General Administration	Headcount	Fixed factor	RBFU			
California	Student Services	Headcount of FTE student using services	Workload factor	RBFU			
Colorado	Student Services	FTE students above 500	6 FTE staff + 1 FTE staff for each 132 FTE students above 500	Base + BFPR/SR			
Georgia	Student Services (combined with Institutional Support)	Amount budgeted for Instruction, Research & Public Service	Percentage	PBF			
Idaho	Student Services	Headcount and headcount of service users	Base + factor that varies with headcount	RBFU			
Kansas	Student Services--enrollment adjustment	Actual changes in headcount & enrollment	Fixed factor	RBFU			
Kentucky	Student Services	Headcount enrollment averaged over 3 years	Base + factor per student	Base + RBFU			
Michigan (Community colleges only)	Student Services	Headcount	Factor	RBFU			

TABLE V (continued)

States	Line Item	Base Factors	Formula Factors	Method of Calculation	Differentiation: Academic Areas	Differentiation: Instructional Levels	Differentiation: Type of Institution
Missouri	Student Services (part of General Support)	Pervious year's budget	Percentage	PBF			
Montana	Student Services (part of Other Support)	FTE budgeted enrollment	Factor	RBFU			
New Mexico	Student Services	Headcount	Base factor of 20 staff X average salary and fixed factor of non-salary support + student/staff ratio for students over 1500 with fixed factor for non-salary support	Base + BFPR/SR			
Oregon	Student Services	Fixed amount + Headcount allowance	Fixed amount + weighted factor for headcount	Base + RBFU			Yes
South Carolina	Student Services	Headcount + SCH	Variable factor based on range level of headcount	RBFU			
Tennessee	Student Services	Headcount + FTE enrollment	Set factor per headcount student + set factor per FTE student	RBFU			
Texas	Student Services & General Administration	Headcount--previous fall semester Sponsored research funds--previous year	Factor weighted for marginal costs & size of institution + percentage of special research funds	RBFU + PBF			

TABLE V (continued)

States	Line Item	Base Factors	Formula Factors	Method of Calculation	Differentiation: Academic Areas	Differentiation: Instructional Levels	Differentiation: Type of Institution
Virginia	Student Services	Number of campuses (of multi-campus institution)	Set dollar factor	RBFU (Base budgeted in this category. Variable number of staff over base calculated under Institutional Support)			
West Virginia	Student Services	Headcount of previous year	Cost factor based on 3 previous years weighted for size of institution	RBFU			Yes

TABLE VI

1985 FORMULAS FOR BUDGETING OR ALLOCATING FUNDS FOR OPERTION AND MAINTENANCE OF PLANT IN PUBLIC HIGHER EDUCATION

States	Line Item	Base Factors	Formula Factors	Method of Calculation	Differentiation	
					Type of Building/Acreage	Type of Institution
Alabama	Physical Plant Maintenance	Projected square footage	Established factor	RBFU		
	Utilities--electricity & heat	Projected square footage	Projected utility rate X square footage	RBFU		
	Utilities--other	Projected square footage	Previous year's rate per square foot adjusted by percentage increase			
California	Physical Plant Maintenance	Square footage and acreage	Cost factor	RBFU		
Colorado	Physical Plant/ utilities	Total square foot- of campus weighted for intensity of space usages	Established factor	RBFU	Intensive of usage	
Connecticut	Custodial Services	Weighted building square footage	Square footage/ position ratio	BFPR/SR	9 types of building space	
	Supply Costs for Services	Weighted building square footage	Average salary rates	RBFU	9 types of building space	
	Grounds Maintenance	Weighted acreage	Ratio acres/maintenance Ratio supply cost/acre Ratio staff/supervisors Average position salary	BFPR/SR	9 categories reflective of intensity of landscaping	
	Building Maintenance	Total gross square footage	Set dollar factor per square foot + constant adjustment factor	RBFU		

TABLE VI (Continued)

States	Line Item	Base Factors	Formula Factors	Method of Calculation	Differentiation: Type of Building/Acreage	Differentiation: Type of Institution
Florida	Plant Operation & Maintenance	Previous budget amount for Plant O & M	Percentage (increment)	PBF		
Georgia	Operation & Maintenance	Square footage	Established factor	RBFU		
	Repair & Rehabilitation	Current replacement value of all buildings	Percentage	PBF		
	Utilities	Previous year's expenditures	Percentage increase	PBF		
Idaho	Custodial Services	System total gross square footage	Percentage of square footage on each campus	PBF		
Kansas	Campus Security	Changes in on-campus headcount enrollment	Established dollar factor	PBFU		
Kentucky	Physical Plant Operation & Maintenance	Square feet by usage	Dollar factor	PBFU	Square feet categorized by usage level	
		Acreage	Dollar factor	RBFU		
		Previous year's expenses for utilities				
		Rental & lease costs of previous year	Percentage increase	PBF		
Louisiana	Plant Operation & Maintenance	Square footage used for instruction & support	Set dollar factor	RBFU		
	Utilities	Gross square footage	Cost factor per square foot	RBFU		

TABLE VI (Continued)

States	Line Item	Base Factors	Formula Factors	Method of Calculation	Differentiation: Type of Building/Acreage	Differentiation: Type of Institution
Michigan (Community colleges only)	Physical Operation	Gross square footage	Set dollar factor	RBFU		
	Utilities	Gross cubic footage	Set dollar factor	RBFU		
Missouri	Physical Plant	Square footage	Median cost per square foot	RBFU		Differentiated for University of Missouri
	Equipment Replacement	Inventory value	Percentage	PBF		Differentiated for state colleges, regional universities, & University of Missouri
Montana	Physical Plant	Previous year's budgeted amount	Percentage (increment)	PBF		
New Mexico	Physical Plant Operation & Maintenance	Square footage	Set amount divided into square footage to represent staffing units. These units are multiplied by an intensity of usage factor to yield total number of staff positions. This is multiplied by a factor to yield materials support.	BFPR/SR & RBFU		
Ohio	Plant Costs	Actual square footage	Weighting factors for type of usage, relative cost of operation & maintenance, type of space, and extended hours of usage yields cost impact weight square foot cost	RBFU	Categories based on usage, cost of operation and maintenance, and type of space	

TABLE VI (Continued)

States	Line Item	Base Factors	Formula Factors	Method of Calculation	Differentiation: Type of Building/Acreage	Differentiation: Type of Institution
Oregon	Physical Plant Maintenance	Current valuation of structures	Factor weighted by type of construction and air conditioning	RBFU	Type of construction Presence of air conditioning	
	Building Rehabilitation & Remodeling	Current valuation of structures	Set percentage	PBF		
	Utility Distribution System	Maintenance costs	Percentage	PBF		
	Staff positions	Square feet/square acres	Positions per acre/ foot X salaries on pay range	BFPR/SR		
	Services & Supplies	Number of staff positions	Set amount per staff position	BFPR/SR	Differentiated by building or grounds responsibility	
Pennsylvania	Physical Plant Operations	Adjusted square feet	Matrix percentage on Systemwide basis	PBF	Varies by size of institution to allow for economies of scale	
South Carolina	Physical Plant General Services	FTE employees FTE students Average hourly earnings Replacement cost of buildings	Dollar factor for each base factor added together	RBFU		
	Building Maintenance	Replacement cost of buildings	Cost factors (percentages) for buildings by one type of construction	PBF	Type of construction Presence of air conditioning	
	Custodial Services	Gross square feet	Average hourly earnings + 4 cost factors	RBFU		
	Grounds Maintenance	Total linear feet of perimeter of buildings and acreage of maintenance areas and headcount	Cost factors for each base factor	RBFU		

TABLE VI (Continued)

States	Line Item	Base Factors	Formula Factors	Method of Calculation	Differentiation	
					Type of Building/Acreage	Type of Institution
South Carolina (Continued)	Utilities	Previous year's budget	Percentage increase	PBF (incremental)		
Tennessee	Physical Plant Operation & Maintenance	Square footage	Rate per square foot X square footage weighted for intensity of use and age of building	RBFU	Intensity of usage Age of facilities	
Texas	Plant Support Services	Previous fall semester headcount Number of employees Replacement cost of buildings	Set factor X national average hourly salary X (headcount + number of employees) + set rate X replacement cost of buildings	RBFU (minimum level set)		
	Campus Security	Headcount number of employees	Set factor weighted Proximity to urban areas and high value square footage on campus	RBFU (minimum level set)	Weighted for proximity to urban areas and high value square footage	
	Building Maintenance	Building replacement costs	Set factor differentiated by type of construction and air conditioning	RBFU	Type of construction Presence of air conditioning	
	Custodial Services	Square feet of Physical Plant	Set factor X national average hourly salary X variable factor based on square footage	RBFU		
	Grounds Maintenance	Linear feet of perimeter of buildings, main-acreage, and head-count enrollment	National average hourly salary X variables based on base factors	RBFU		

TABLE VI (Continued)

States	Line Item	Base Factors	Formula Factors	Method of Calculation	Differentiation: Type of Building/Acreage	Differentiation: Type of Institution
Virginia	Plant Operation & Maintenance	Square footage	Ratio of staff positions to square footage. Ratio of administrative positions to other plant positions	BFPR/SR		
West Virginia	Physical Plant Operations	Total building square footage	Cost factor for utilities and cost factor for custodial services, maintenance, and security	RBFU		

177.

TABLE VII

1985 FORMULAS FOR BUDGETING OR ALLOCATING FUNDS FOR LIBRARIES IN PUBLIC HIGHER EDUCATION

State	Line Item	Base Factors	Formula Factors	Method of Calculation	Differentiation: Academic Areas	Differentiation: Instructional Levels	Differentiation: Type of Institution
Alabama	Library Support	SCH Production	Fixed factor Student/faculty ratio	RBFU BFPR/SR		4	
California	Staff	Projected FTE enrollment	Workload factor	RBFU			
Colorado	Library Operations	SCH Production	Base of 2.8 FTE staff with expenses factor X SCH	Base + RBFU	Yes		
	Learning Materials	World publications in each discipline	Percentage to which an institution was entitled based on campus and state importance of discipline	PBF			
Connecticut	Library Services	FTE enrollments about base number by level	Dollar factor based on past costs added to guaranteed amount	Base + RBFU		5	
Florida	Library Holdings	Holdings, SCH enrollment, academic staff, academic programs, and number of campuses	Needs determined by weightings for enrollment, academic staff, academic programs, number of campuses, and present book inventory	RBFU	Yes	Yes	Yes
Georgia	Academic Support	Budgeted amount for Instruction, Research, Public Service	Percentage	PBF			
Idaho	Library Services & Support	Total system budget	Percentage	PBF			

TABLE VII (Continued)

State	Line Item	Base Factors	Formula Factors	Method of Calculation	Differentiation: Academic Areas	Differentiation: Instructional Levels	Differentiation: Type of Institution
Kansas	Library & Audio-visual Services--enrollment adjustment	Change in weighted FTE enrollment	Fixed dollar factor	RBFU	24	4	
Kentucky	Libraries, Museums, & Galleries	SCH production greater than 50,000 (undergraduate)	Base amount + rate per SCH over 50,000 weighted for level of SCH and size of institution	Base + RBFU		Yes	Yes
Missouri	Library Services, Expenses, Equipment & Acquisitions	Previous year's budget	Percentage	PBF			
New Mexico	Academic Support	Instruction budget	Percentage	PBF			
Ohio	Library Acquisitions & Technical Services	Academic programs	Weightings applied for levels of instruction & total course count	RBFU	Yes	5	Yes
Oregon	Libraries, Holdings & Acquisitions	Adequate level: base number of volumes plus established ratios of volumes/faculty, volumes/student, volumes/program	Set percentage of "adequate level" X dollar factor per volume	RBFU	Yes	8	
	Libraries, Staffing	Headcount students	Minimum number plus headcount students/position ratio X salary by position	BFPR/SR		3	
	Libraries, Binding Libraries, Services & Supplies	Acquisition budget Staffing, Binding & Acquisition budget	Percentage	PBF			

TABLE VII (Continued)

State	Line Item	Base Factors	Formula Factors	Method of Calculation	Differentiation: Academic Areas	Differentiation: Instructional Levels	Differentiation: Type of Institution
South Carolina	Libraries	Total costs of Instruction	Percentage	PBF			
	Other Academic	Total costs of Instruction, Research & Public Service	Percentage	PBF			
Tennessee	Library Support	Projected SCH	Cost per SCH per level of instruction based on referent states. Upward percentage adjustment in SCH cost for sciences and technologies.	RBFU	29	5	
Texas	Library	Previous year's SCH	Factor weighted for levels of instruction	RBFU (minimum level set)		4	
Virginia	Staff Libraries	Projected FTE enrollment FTE teaching positions	Base + ratio of staff to number of students enrolled and number of faculty	Base + BFPR/SR (Varies relative to current membership standards of Association of Research Libraries)			
	Libraries Holdings	Number of volumes needed to meet Association of Research Libraries membership standards	Volumes needed X weighted cost per volume differential by institution and degree programs	RBFU (use both Voigt formula and Clapp-Jordan formula)	Yes		Yes
West Virginia	Libraries	Total budgeted for Instruction, Research & Public Service	Percentage	PBF			

APPENDIX E

STATE BUDGET FORMULAS FOR PUBLIC COMMUNITY COLLEGES

STATE BUDGET FORMULAS FOR PUBLIC COMMUNITY COLLEGES

A Supplemental Report Prepared For
The Nevada Legislative Committee
To Study Funding For Higher Education

by Jane Adams Lamb Ed.D.
March 26, 1986

Budget formulas for two-year community colleges may be included in the formulas that are used by states to calculate funding needs of all public higher education or they may be completely distinct and separate. In either method, differences in the funding process are designed to reflect different workloads and missions of the community colleges. For example, in Michigan, which uses a formula for its community colleges only, student contact hours are the base driving the formula instead of student credit hour production, the base more commonly used as a workload measure for four-year institutions. Illinois uses a formula for community colleges that is student credit hour driven, but adds a separate Public Service Expenditure to reflect that mission of the community college.

If the same formula is used for all higher education institutions, then some differentiation within the formula is frequently seen for community colleges. Kentucky, which has a very elaborate budgeting formula, differentiates student/faculty ratios for the community college system from the lower division, upper division, master's, and doctoral support rates at four-year institutions. In addition, adult and continuing education programs mandated at the community colleges are specifically addressed in the formula. Tennessee, on the other hand, calculates community college funding needs at the same level as lower level instruction in the four-year institutions. Alabama utilizes an average funding rate per student credit hour based on comparative cost figures from surrounding states for junior colleges and a formula based on student contact hours for technical colleges. Definitions of community colleges, junior colleges, and technical colleges appeared to vary widely from state to state.

State budgeting for community colleges may include the addition of local funding for these institutions. In the February 1982 survey on community colleges published by the Education Commission of the States, twenty-nine of the forty-nine states that have community colleges indicated that some portion of the financing of these institutions was from local sources. In Michigan, a tax equalization figure representing variances in local property tax income is subtracted from the state request. In New Jersey, state funding for community colleges (part of a county college system) is assumed to be 43 to 50 percent of the operating budget, with the remainder made up by local financing.

Details on budgeting formulas that represent various models of community college funding are presented for five states: Alabama, Illinois, Kentucky, Michigan, and New Jersey. Three utilize a formula budgeting model for community colleges only, and two include community colleges in the formula for all public higher education. Two formulas are very complex (Kentucky and Michigan) as opposed to the very simple format of the other three. Only Michigan and New Jersey include calculation of local support as part of the formula.

Alabama

The Alabama Commission on Higher Education submitted a 1985-86 unified budget based on a separate budget formula for four-year institutions, junior colleges and technical colleges. The formulas relate funding needs for the regular academic programs to student credit hours and enrollment based on average funding levels in other Southern states. The amount of monies requested for all "regular academic programs" is based on an FTE enrollment factor. An average funding rate based on other Southern states and adjusted for inflation is multiplied by the FTE enrollment of the previous year of all institutions.

For junior colleges the average funding rate per FTE student in the seven southern states in which junior colleges receive minimal local support (as in the case of Alabama) is calculated. These states are Florida, Georgia, Kentucky, Louisiana, Tennessee, Virginia, and West Virginia. This rate is multiplied by the Alabama junior college FTE enrollment to produce a total. This amount is then modified to reflect Teachers' Retirement, Social Security, and inflation.

For technical colleges the average salary (adjusted to reflect 12 months) is divided by the standard contact hours per year (1,296) times 15 (reflecting a 15:1 student ratio) to determine instructional salary expense per student contact hour. Adjustments to reflect program support expenses (projected to be 40 percent of total expense) and tuition income are made. This final rate per student contact hour is then multipled by the actual student contact hours to obtain the total funding needs.

Illinois

Recommendations for funding levels for the public four-year institutions in Illinois are made by the Board of Higher Education based, not on formulas, but on the last budgeted base amount adjusted for salary and price increases. Additional support is requested on a case-by-case basis for specific improvements at each university.

However, budget recommendations for the public community colleges are controlled by a formula established by the Board of Higher Education and the Illinois Community College Board. A total unit cost (per credit hour) is calculated based on actual data of the preceding year. Then this

figure is adjusted for recommended increases for salaries, utilities, libraries, and other nonpersonnel costs. This adjusted unit cost is then multiplied by the number of student credit hours projected for the next fiscal year to arrive at the formula amount requested for community colleges. In addition to this base figure, a request for public service expenditures is made separately and increased by the same weighted amount.

Kentucky

The formula used in Kentucky for the 1984-86 budget request was the result of an extensive study mandated by the Kentucky legislature. This study was in response to controversy generated by changes in the formula for the 1982-84 biennium budget request. Although Kentucky had used a formula-generated budget request since 1964, the Council on Higher Education had applied the formula over a broader range in 1981. At the conclusion of an eighteen month study that involved institutional input, public hearings, and visits to eighteen other states, the Formula Study Committee and the Formula Steering Committee recommended a revised formula described as "mission-driven." Significant revisions cited include: inclusion of summer school enrollments in formula calculations, use of a three-year average enrollment to buffer against the impact of enrollment fluctuations; inclusion of more programs in the formula; management incentives to achieve certain goals; a mechanism for special requests; common levels of funding of common activities; factors reflecting differing roles and missions, sizes, locations, and programs of institutions; and use of comparable institutions and national averages in the formula.

The Community College System is differentiated in the formula from the lower division, the upper division, the master's and doctoral support rates at four-year institutions. These community college variables are as follows:

1. Instructional Areas. Citing the "Texas model of support per credit hour," Kentucky uses a similar formula for instructional costs. A support rate is calculated by utilizing average salaries from benchmark institutions, student/faculty ratios, and FTE students. Student/faculty ratios by instructional areas for community colleges are as follows:

Liberal Arts	22.5:1
Science	21.6:1
Fine Arts	11.2:1
Education	22.5:1
Agriculture	15.9:1
Engineering	14.1:1
Home Economics	15.9:1
Library Science	19.7:1
Vocational Training	19.8:1
Health Services	7.5:1
Pharmacy	7.5:1
Business	22.5:1
Technology	14.1:1

The resulting support rate, which represents salary per credit hour, is then adjusted for fringe benefits (set percentage) and departmental operating expenses (add on per credit hour). This support rate is calculated differentially by area of instruction (thirteen categories). This rate per student credit hour is then multiplied by either the three-year average student credit hours by area and level for 1980-81, 1981-82, and 1982-83 or the projected enrollment for the upcoming year (again differentiated by level, type of institution, and area of instruction). A percentage factor representing differences in institutional mission is then added to this. A percentage increase (.05) is assumed for each year.

2. Area Health Education System. A base rate per week times the number of student weeks is calculated for various health disciplines, as community health, dental hygiene, dietitics and nutrition, medical records, medical technology, rehabilitation counseling, and respiratory therapy.

3. Preparatory Education. This category of budgeting provides supplemental funding for freshman and sophomore students with low scores on the American College Test. Head count of these students is multiplied by a set amount.

4. Adult and Continuing Education. A minimum level of support for this area is guaranteed by a formula that specifies a set minimum amount of base support or a percentage factor or the basic primary mission area funding, whichever is greater. Mandated programs at the community colleges are budgeted at the previous year's level of funding times a set percentage increase (cost of living).

5. Other Community Service. A base level of support is provided that is augmented by funds for specific missions and mandated programs.

6. Student Services. A minimum level of support and an amount per student are based on head count enrollment (averaged over three years).

7. Maintenance and Operation of the Physical Plant. Calculations in this category include 1) square feet (by usage) multiplied by a set rate, 2) incremental increases in utilities, 3) acreage multiplied by a set rate, 4) incremental increases in rental and lease costs, 5) subtraction of indirect costs recovery for space utilized for research.

8. Scholarships and Fellowships. A percentage factor is multiplied by tuition revenue generated under the enrollment included in the basic primary mission area. Added to this is the cost of mandated scholarships and mandated matching funds.

9. Institutional Support. A percentage factor is multiplied by the total of funds generated for the above listed areas.

10. Educational and General Debt Service. This area is an established amount less other revenue.

11. Unfunded Retirement. This area is an amount established in advance outside formula.

Also included in the official formula calculations in Kentucky are subtractions for three items reflecting income: investment income, tuition, and state funded retirement. The final figure derived then represents the total budgeted state support of current operations.

Michigan

Four-year institutions in the State of Michigan do not utilize a formula budgeting model, but a new formula for community colleges was just implemented for the budgeting year 1984-85. This new approach to formula funding differentiates more on the basis of each college's basic needs as defined in role and mission, placing less emphasis on enrollment than previous formulas did. The basic categories included are:

1. Instructional Need. Average costs per student contact hour of instruction are computed from a base year's expenditures and used to project rates of pay. A student contact hour is defined as 50 minutes of instruction. These are differentiated into six areas of instruction. The initial rates per student contact hour are:

General Instruction	$2.70
Business Instruction	$1.90
Trade Instruction	$2.80
Health Instruction	$2.70
Developmental Instruction	$2.60
Human Development	$1.50

A special adjustment is made to compensate for an enrollment decline for two years following the first year of any decline. Also included is a formula component for replacement of instructional equipment: 50 percent of equipment need based on a ten-year life of equipment.

2. Instructional Support. A percentage of the Instructional Need component (20 percent) is computed to yield a budget figure for this category. Included are library services and instructional administration.

3. Student Services. Head count is multiplied by an established dollar amount ($150).

4. Institutional Administration. Actual total expenditures for a base year (1982-83) are multiplied by a percentage factor that varies by the size of the institution:

colleges with less than 2,500 FTE's = 14 percent
colleges up to 6,000 FTE's = 11 percent
colleges with greater than 6,000 FTE's = 10 percent

5. Utilities. Gross cubic footage is multiplied by a set amount (7 cents) per cubic foot.

6. Physical Plant Operations. Gross square footage of building is multiplied by a set amount ($2.26).

7. Tax Equalization. A deduction is made from the gross need figure (derived from 1-6 above) representing variances in property tax income.

8. Tuition Equalization. A deduction from the gross need figure is made for an amount representing the student's funding responsibility. This amount per student credit hour varies for in-district and out-of-district students.

9. Phase-in. A percentage limit to the increase or decrease in a particular college's budgeted amount is set for the phase-in period of this formula.

10. Special Grants. Special grants are defined to compensate for colleges that do not levy taxes and for student enrollment at prisons.

New Jersey

New Jersey has not utilized a formula format to generate a budget request for its four-year institutions since the 1983 fiscal year. At the present time the Board of Higher Education submits a funding request for four-year insitutions based on "continuation plus selected program improvements."

Both two-year academic colleges and two-year occupational schools are part of the New Jersey County College system. County college revenue is derived from both state and county funds. State funding for county colleges is provided as a percentage range (43 percent to 50 percent) of the education and general (operating) expenditures generated two years prior to the budget year under consideration. Enrollment is not a factor in determination of this amount, but rather this model is based on categorical and differential program costs.

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APPENDIX F

"An Analysis of Selected Tax Sources"

AN ANALYSIS OF SELECTED TAX SOURCES

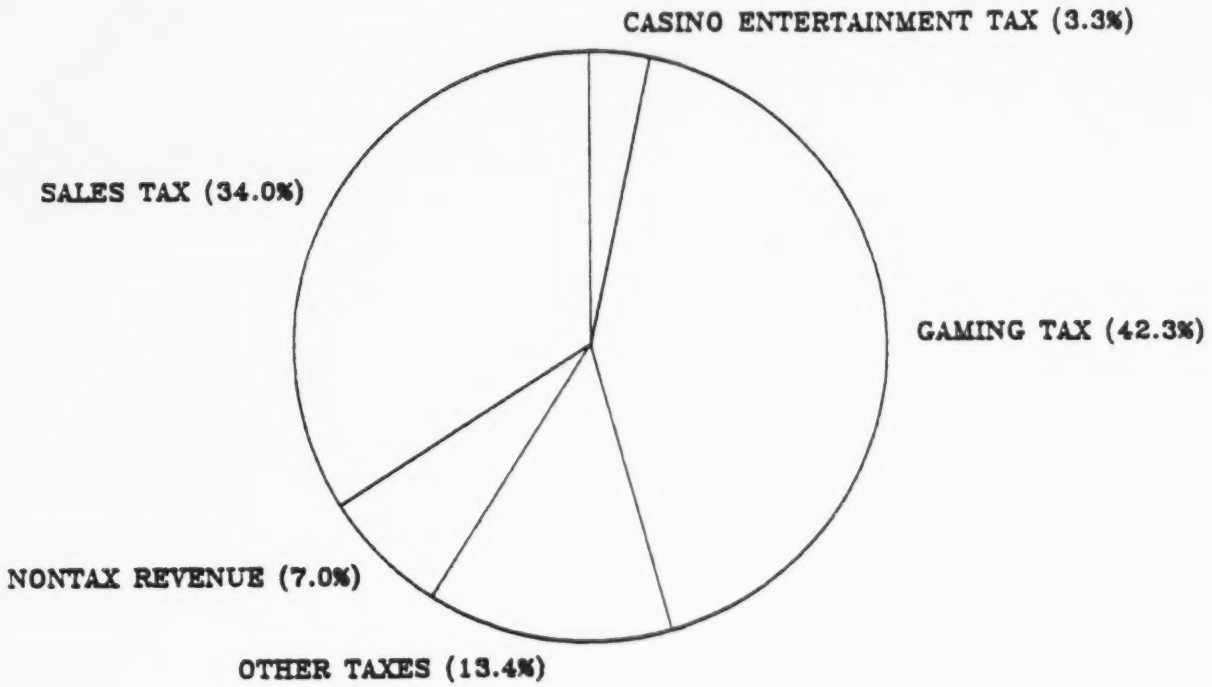
PREPARED BY THE LEGISLATIVE COUNSEL BUREAU
FISCAL ANALYSIS DIVISION
FOR
ASSEMBLYMAN BOB THOMAS

TABLE OF CONTENTS

	Page
General Fund Revenue by Source FY 1984-85	1
General Fund Revenue Estimates 1985-87 Biennium	2
Tax Sources Utilized in Nevada	
Sales Tax on Goods	3
Gaming Taxes	
Gaming Percentage Fee	4
Non-Restricted Slot License Fee	5
Restricted Slot License Fee	6
Annual Slot Tax	7
Flat Fee on Games	8
Casino Entertainment Tax	9
Property Tax	10
Insurance Premium Tax	11
Liquor Taxes	
Malt Beverage	12
Alcohol from ½ of 1 Percent to 14 Percent	13
Alcohol from 14 Percent to 22 Percent	14
Alcohol over 22 Percent	15
Cigarette Tax	16
Other Tobacco Tax	17
Jet Fuel Tax	18
Room Tax	19
Gas Tax	20
Tax on Diesel Fuel	21
Tax Sources Utilized in Other States	
Personal Income Tax	22
Corporate Income Tax	23
Sales Tax on Services	24
Lottery	25
Business Inventory Tax	26
Tax on Oil Production	27
Utility Tax	30
Estate "Pickup" Tax	31

GENERAL FUND REVENUES

PRELIMINARY--FY 1984-85



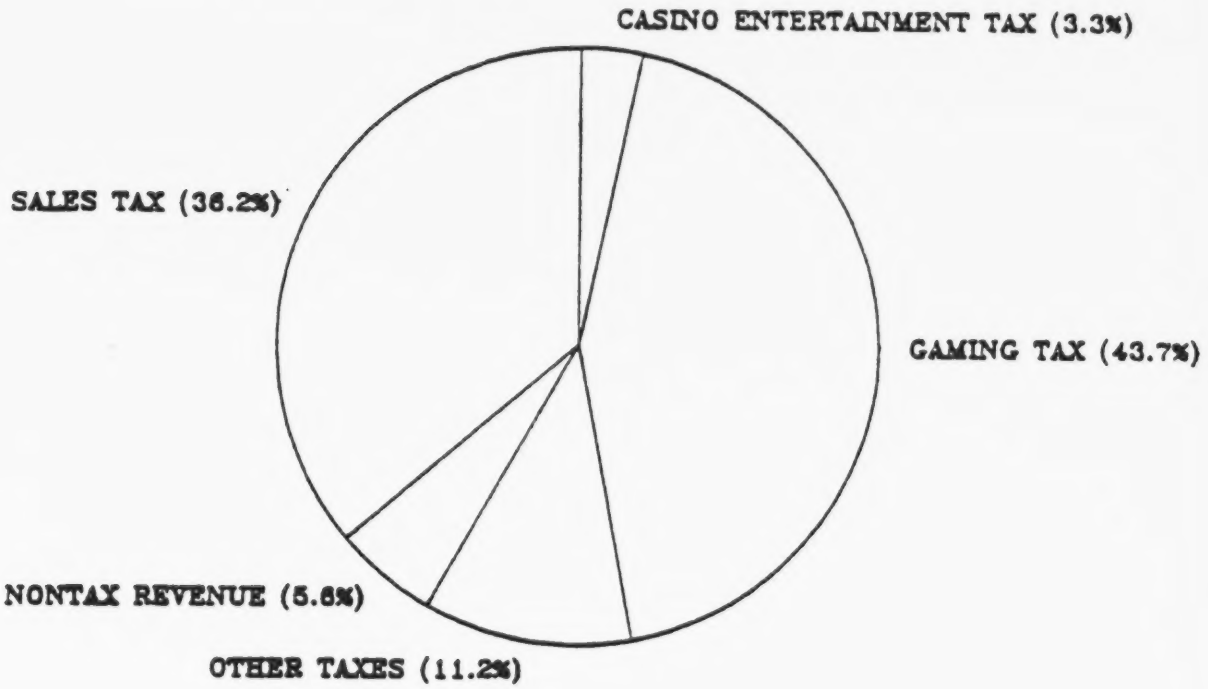
GENERAL FUND REVENUES
PRELIMINARY--FY 1984-85

STATE GAMING TAX	42.3¢	NONTAX REVENUES:	
CASINO ENTERTAINMENT TAX	3.3¢	LICENSES	1.9¢
SUBTOTAL GAMING TAX	45.6¢	FEES AND FINES	.4¢
		CHARGES FOR SERVICES	.1¢
SALES AND USE TAX	34.0¢	USE OF MONEY AND PROPERTY	3.7¢
		MISCELLANEOUS REVENUE	.9¢
OTHER TAXES:		SUBTOTAL NON-TAX REVENUE	7.0¢
PROPERTY TAX	.5¢		
LIQUOR TAX	2.2¢	TOTAL REVENUE	100.0¢
INSURANCE TAX	6.1¢		
CIGARETTE & TOBACCO TAX	1.6¢		
JET FUEL TAX	0.4¢		
ANNUAL SLOT TAX	1.1¢		
SOFT DRINK TAX	1.5¢		
SUBTOTAL OTHER TAXES	13.4¢		
SUBTOTAL ALL TAXES	93.0¢		

MISC20/GFR

GENERAL FUND REVENUE ESTIMATIONS

LEGISLATURE APPROVED--1985-87 BIENNIUM



GENERAL FUND REVENUE ESTIMATIONS
LEGISLATURE APPROVED - 1985-87 BIENNIUM

STATE GAMING TAX	43.7¢	NONTAX REVENUES:	
CASINO ENTERTAINMENT TAX	3.3¢	LICENSES	1.9¢
SUBTOTAL GAMING TAX	47.0¢	FEES AND FINES	.4¢
		CHARGES FOR SERVICES	.1¢
SALES AND USE TAX	36.2¢	USE OF MONEY AND PROPERTY	2.5¢
		MISCELLANEOUS REVENUE	.7¢
OTHER TAXES:		SUBTOTAL NON-TAX REVENUE	5.6¢
PROPERTY TAX*	-		
LIQUOR TAX	2.3¢	TOTAL REVENUE	100.0¢
INSURANCE TAX	5.9¢		
CIGARETTE & TOBACCO TAX	1.6¢		
JET FUEL TAX	0.4¢		
ANNUAL SLOT TAX	1.0¢		
SUBTOTAL OTHER TAXES	11.2¢		
SUBTOTAL ALL TAXES	94.4¢		

*THE PROPERTY TAX IS CONTINUED BUT EARMARKED FOR BOND INTEREST AND REDEMPTION.

TAX SOURCES UTILIZED IN NEVADA

201199

SALES TAX ON GOODS

Explanation of Tax:
A tax imposed for the privilege of selling taxable personal property based on a percentage of the gross receipts of any retailer.

Tax Rate:
Total tax rate of 5.75% - 6.0% is distributed as follows:[1]

1. 2% is deposited to the state general fund.
2. 1.5% (LSST) Is deposited to the State Distributive School Fund.
3. 0.5% (CCRT) is distributed to cities or counties based on population.
4. 1.75% (SCCRT) is distributed to cities, counties and special districts on a formula basis to replace ad valorem revenue.
5. 0.25% - Optional county tax (requiring approval by the majority of the voters in a county) imposed to finance public mass transportation or the promotion of tourism.

Revenue Generated from Sales and Use Tax

	FY 1984-85 Actual	FY 1985-86 Estimate	FY 1986-87 Estimate
2 % State General Fund	$157.8 Million	$169.6 Million	$182.3 Million
1.5 % School (LSST)	$120.3 Million	$129.3 Million	$139.0 Million
2.25 % City/County	$180.2 Million	$193.7 Million	$208.2 Million
0.25 % County Transportation	$ 5.0 Million	$ 5.4 Million	$ 5.8 Million

Estimated Additional Revenue from Tax Increase
Based on the FY 1986-87 revenue estimates, an increase of ¼ of 1% in the 2% state sales tax is estimated to generate $45,600,000 in general fund revenue per year.

Advantages/Disadvantages Of This Tax Source
Advantages: The sales tax is utilized in all but a handful of states as a major revenue source for state and/or local government. The sales tax is easy to collect and administer. This tax also affects consumption, therefore the more the consumer consumes the higher his tax. The sales tax is also cited as one of three tax sources (the other two are income and property) which contribute to a "balanced" or moderate tax system.

Disadvantages: The major criticism of the sales tax usually is it is regressive. (Tax burden decline as income rises). However, many states have addressed this criticism by exempting some essential commodities from taxation, usually food and medicine. The sales tax is also subject to fluctuations in the economy which was the case when revenues declined during the recessionary period in the early 1980's.

Tax rates in the Western States[2] -

Nevada: State - 2%
Local - 3-3/4 - 4%[1]

Alaska	- State - 0 - Local - up to 6%	Montana	- State - 0 - Local - 0
Arizona	- State - 5% - Local - up to 4%	New Mexico	- State 3-3/4% - Local up to 1-7/8%
California	- State - 4-3/4% - Local - up to 2½%	Oregon	- State - 0 - Local - 0
Colorado	- State - 3% - Local - up to 4%	Utah	- State - 4-38/64% - Local - current rate up to 7/8%
Hawaii	- State - 4% - Local - 0	Washington	- State - 6.5% - Local - current rate up to 1.3%
Idaho	- State - 4% - Local - 0[3]	Wyoming	- State - 3% - Local - up to 2%

1) A.B. 486 of 1985 Session permits counties to impose a ¼% sales tax for mass transportation and construction of public roads. All counties whose population is less than 250,000 (all except Clark County) may impose an additional ¼% sales tax for promotion of tourism. The imposition of either tax requires approval from the voters in the county affected. Therefore in all counties except Clark County, it is possible for the sales tax rate to reach 6½%.
2) Source: Commerce Clearing House State Tax Guide
3) Resort cities may subject to voter approval, impose a sales tax.

GAMING TAXES

GAMING PERCENTAGE FEE

Explanation of Tax:

A license fee based upon the gross revenue of each gaming licensee within the State of Nevada.

Tax Rate:

3 percent of gross revenue of a licensee which does not exceed $50,000 per month.
4 percent of gross revenue of a licensee which exceeds $50,000 per month but does not exceed $134,000 per month.
5.75 percent of gross revenue of a licensee which exceeds $134,000 per month.

General Fund Revenue

FY 1984-85 Actual - $176,848,347
FY 1985-86 Estimate - 189,228,000
FY 1986-87 Estimate - 202,474,000

Estimated Additional Revenue from Tax Increase

Based on estimated FY 1986-87 gross gaming revenue, an increase of ¼ of 1 percent for each category is estimated to generate the following amounts to the general fund per year.

3 percent category	- ¼ of 1 percent increase	$ 420,000
4 percent category	- ¼ of 1 percent increase	502,000
5.75 percent category	- ¼ of 1 percent increase	8,319,000
	TOTAL	$9,241,000

Advantages/Disadvantages of This Tax Source

Advantages:
It is assumed by most that the majority of the tax burden from this revenue source is borne by non-residents. Also, in Nevada, gaming taxes are an acceptable form of revenue for support of state and local government.

Disadvantages:
A large tax increase could have a detrimental effect on smaller licensees or those licensees which have low profit margins. The impact on smaller operations could be addressed by increasing the gaming percentage fee for only the upper category or those licensees with gross revenue over $134,000 per month. In addition, at some point, there is a limit at which gaming taxes could harm the industry, however, no one has been able to accurately predict exactly where that point is.

NON-RESTRICTED SLOT LICENSE FEE

Explanation of Tax:

A fee imposed upon each slot machine for each non-restricted license. A non-restricted operation consists of sixteen or more slot machines or operation of any number of slot machines together with any other game, gaming device, racebook or sports pool at one establishment.

Tax Rate:

$80 per slot machine per year.

General Fund Revenue

FY 1984-85 Actual -	$7,438,935
FY 1985-86 Estimate -	7,811,000
FY 1986-87 Estimate -	8,201,000

Estimated Additional Revenue from Tax Increase

Based on FY 1986-87 revenue estimates, an increase of $10 per slot machine per year is estimated to generate $1,025,000 in general fund revenue per year.

Advantages/Disadvantages of This Tax Source

Advantages:
It is assumed by most that the majority of the tax burden from this revenue source is borne by non-residents. Also, in Nevada, gaming taxes are an acceptable form of revenue for support of state and local government.

Disadvantages:
A large tax increase could have a detrimental effect on those licensees which are experiencing low profit margins. In addition, at some point there is a limit at which gaming taxes could harm the industry, however, no one has been able to predict exactly where that point is.

SB256N/11

RESTRICTED SLOT LICENSE FEE

Explanation of Tax:

A fee imposed upon each slot machine for each restricted licensee. A restricted operation consists of not more than 15 slot machines and no other games or gaming devices at the establishment.

Tax Rate:

1. For establishments with 1 to 5 slot machines - $35 per slot machine per year.

2. For establishments with 6 to 15 slot machines - $55 per slot machine per year.

General Fund Revenue

FY 1984-85 Actual - $1,899,281
FY 1985-86 Estimate - 1,994,000
FY 1986-87 Estimate - 2,094,000

Estimated Additional Revenue from Tax Increase

Based on FY 1986-87 revenue estimates, an increase of $5 per slot machine in both categories is estimated to generate $233,000 in general fund revenue per year.

Advantages/Disadvantages of This Tax Source

Advantages:
It is assumed by most that the majority of the tax burden from this revenue source is borne by non-residents. Also, in Nevada, gaming taxes are an acceptable form of revenue for support of state and local government.

Disadvantages:
A large tax increase could have a detrimental effect on those licensees which are experiencing low profit margins. In addition, at some point, there is a limit at which gaming taxes could harm the industry, however, no one has been able to predict exactly where that point is.

ANNUAL SLOT TAX

Explanation of Tax:

A tax imposed upon each slot machine operated in the state.

Tax Rate:

$250 per year per slot machine.

Revenue Generated From This Tax Source is Distributed as Follows:

1) The first $5 million is deposited to the Higher Education Capital Construction Fund.*

2) 20 percent of the tax is deposited to the Special Capital Construction Fund for Higher Education.

3) The remainder of the tax is deposited to the Distributive School Fund.

Estimated revenue from this tax source is outlined below:

FY 1984-85 Actual - $28,294,264
FY 1985-86 Estimated - 27,500,000
FY 1986-87 Estimated - 28,800,000

Estimated Additional Revenue from Tax Increase

Based on FY 1986-87 revenue estimates an increase of $25 per slot machine is estimated to generate $2,880,000 additional revenue per year.

Advantages/Disadvantages of This Tax Source

Advantages:
It is assumed by most that the majority of the tax burden from this revenue source is borne by non-residents. Also, in Nevada game taxes are an acceptable form of revenue for support of state and local government.

Disadvantages:
A large tax increase could have a detrimental effect on those licences which are experiencing low profit margins. In addition, at some point there is a limit to which gaming taxes could harm the industry, however, no one has been able to predict where that point is.

* This funding is currently being deposited to the State General Fund.

SB256N/AST

FLAT FEE ON GAMES

Explanation of Tax:

A license fee based on the number of games operated at each gaming establishment.

Tax Rate:

(a) Those establishments operating up to one game the sum of $50.
Those establishments operating up to two games, the sum of $100.
Those establishments operating up to three games, the sum of $200.
Those establishments operating up to four games, the sum of $375.
Those establishments operating up to five games, the sum of $875.
Those establishments operating up to six or seven games, the sum of $1,500.
Those establishments operating from eight to ten games, inclusive, the sum of $3,000.

(b) From establishments operating more than ten games:
(1)For each game up to and including 16 games, the sum of $500.
(2)For each game from 17 to 26 games, inclusive, the sum of $4,800.
(3)For each game from 27 to 35 games, inclusive, the sum of $2,800.
(4)For each game more than 35 games, the sum of $100.

General Fund Revenue

FY 1984-85 Actual - $5,442,689
FY 1985-86 Estimate - 5,552,000
FY 1986-87 Estimate - 5,663,000

Estimated Additional Revenue from Tax Increase

Due to the various rates charged based on the number of games at each establishment, it is difficult to make an estimate. However, if given a set of assumptions concerning an increase in the fee, a revenue estimate can be made.

Advantages/Disadvantages of This Tax Source

Advantages:
It is assumed by most that the majority of the tax burden from this revenue source is borne by non-residents. Also, in Nevada, gaming taxes are an acceptable form of revenue for support of state and local government.

Disadvantages:
A large tax increase could have a detrimental effect on those licensees which are experiencing low profit margins. In addition, at some point there is a limit at which gaming taxes could harm the industry, however, no one has been able to predict exactly where that point is.

CASINO ENTERTAINMENT TAX

Explanation of Tax:

A tax imposed on all amounts paid for admission, food, refreshments and merchandise provided at gaming establishments where music and dancing privileges or any other entertainment is provided to patrons in connection with the serving or selling of food or refreshment or the selling of merchandise.

Tax Rate:

10 percent of all amounts paid for admission, food, refreshment and merchandise.

General Fund Revenue

FY 1984-85 Actual - $15,594,913
FY 1985-86 Estimate - 15,907,000
FY 1985-86 Estimate - 16,225,000

Estimated Additional Revenue from Tax Increase

Based on FY 1986-87 revenue estimates, an increase of 1 percent is estimated to generate $1,623,000 in general fund revenue per year.

Advantages/Disadvantages of This Tax Source

Advantages:
Majority of tax paid by non-residents who attend entertainment offered by Nevada hotels and casinos.

Disadvantages:
This revenue source may not yield an annual increase equal to the inflation rate. Over the past few years, revenues generated from this tax source have remained flat or declined. Also, this tax is highly dependent on the entertainment policies of Nevada hotels and casinos.

SB256N/12

PROPERTY TAX

Explanation of Tax: A tax imposed on the value of real and personal property with certain exemptions.

Tax Rate: Maximum property tax rate as provided in the Nevada Constitution is $5.00 per $100 of assessed valuation. The current statutory maximum property tax rate is $3.64 per $100 of assessed valuation. Currently, the lowest property tax rate in Nevada is $1.29 in Lander County (unincorporated areas) and the highest rate is $3.64 at Round Hill General Improvement District (Douglas County). The average statewide property tax rate in Nevada for FY 1985-86 is approximately $2.11 per $100 of assessed valuation.

General Fund Revenue

FY 1984-85 - $2,393,429*

Estimated Additional Revenue from Tax Increase

Estimated statewide assessed valuation for FY 1985-86 is $13,875,822,505. Therefore in FY 1985-86 a 1¢ increase in the property tax statewide would generate approximately $1,388,000 per year.

Advantages/Disadvantages of This Tax Source

Advantages:
This is a very stable tax source which is not subject to wide variations due to fluctuations in the economy. The property tax is also inflation sensitive. The property tax has been cited as one of three tax sources (the other two are income and sales) which contribute to a "balanced" or moderate tax system.

Disadvantages:
A significant increase in the property tax rate could prove to be unpopular with the majority of Nevada residents. In November 1978, voters overwhelmingly approved an initiative petition (Question 6) to amend Article 10 of the Nevada Constitution by limiting property tax collections and how real property is assessed. Only after the 1979 Legislature approved substantial property tax relief, did voters defeat Question 6 in the November 1980 election.

Some people feel there is a lack of uniform criteria used to assess property. Also property in certain neighborhoods "top out" in assessed valuation and start declining in value which results in the need for continued growth to maintain or increase tax income.

* In FY 1984-85 a property tax of 2¢ per $100 of assessed valuation was imposed statewide and deposited to the State General Fund. The 1985 Legislature continued this 2¢ statewide property tax but provided that the revenue generated would be deposited directly to the Bond Interest and Redemption Fund to partially fund the redemption of bonds issued by the State of Nevada.

SB256N/PT

INSURANCE PREMIUM TAX

Explanation of Tax:

A tax imposed upon each insurer, for the privilege of transacting business in this state, based on the insurers' net premiums.

Tax Rate:

1. 3.0 percent of net insurance premiums through June 30, 1987 (deposited to general fund).

2. 2.5 percent of net insurance premiums effective July 1, 1987 (deposited to general fund).

General Fund Revenue

FY 1984-85 Actual -	$28,389,074
FY 1985-86 Estimate -	30,092,000
FY 1986-87 Estimate -	31,898,000

Estimated Additional Revenue from Tax Increase

Based on FY 1986-87 revenue estimates, an increase of 1/2 of 1% in the insurance premium tax is estimated to generate $5,316,000 in general fund revenue per year.

Advantages/Disadvantages Of This Tax Source

Advantages: Taxes on insurance premiums is utilized in every state as a revenue source for state and/or local government. Insurance premiums also represent a large tax base from which to draw revenue.

Disadvantages: One disadvantage is that taxes on insurance premiums is regressive - any increase in taxes takes a much higher percentage of income of the poor than those who are wealthy. Another complaint is the imposition of a tax on items which are mandated by law. An example would be automobile insurance which in Nevada is mandatory if a person operates a motor vehicle.

Tax rates in the Western States* - (Rates for domestic corporations are usually less than those indicated below)

Nevada: 3.0% through 6/30/87
2.5% effective 7/01/87

Alaska	3.0%	Montana	2.75%
Arizona	2.0%	New Mexico	3.0%
California	2.35%	Oregon	2.25%
Colorado	2.25%	Utah	2.25%
Hawaii	3.0%[1]	Washington	2.16%
Idaho	3.0%	Wyoming	2.50%

* Source: Commerce Clearing House State Tax Guide

[1] Life insurance - 3.0%
Property/casualty - 4.0%

LIQUOR TAXES

LIQUOR TAX - MALT BEVERAGES

Explanation of Tax:

An excise tax levied for the privilege of importing, possessing, storing or selling liquor at a rate of 9¢ per gallon on all malt beverages brewed or fermented and bottled in or outside of the state.

Tax Rate:

9¢ per gallon (deposited to general fund)

General Fund Revenue

FY 1984-85 Actual - $2,924,587
FY 1985-86 Estimate - 3,042,000
FY 1986-87 Estimate - 3,163,000

Estimated Additional Revenue from Tax Increase

Based on FY 1986-87 revenue estimates, an increase of 1¢ per gallon is estimated to generate $351,000 in general fund revenue per year.

Advantages/Disadvantages Of This Tax Source

Advantages:
The consumer bears 100% of the tax burden on a product which is not considered a necessity.

Disadvantages:
This revenue source may not yield an annual increase equal to the inflation rate. National liquor consumption has been flat or declined during the last four years. Nevada statistics indicate both years of decline and increase in consumption during the past four years. One way this problem could be addressed would be to base the tax on wholesale price rather than on the number of gallons. This would allow the liquor tax to be sensitive to price increases.

Tax rates in the Western States* - Tax rate per gallon of malt beverages.

Nevada: 9¢

Alaska	35¢	Montana	12.9¢
Arizona	16¢	New Mexico	18.0¢
California	4¢	Oregon	8.4¢
Colorado	8¢	Utah	35.5¢[1]
Hawaii	20% of wholesale price	Washington	8.4¢
Idaho	15¢	Wyoming	2.0¢

*Source: Commerce Clearing House State Tax Guide

[1]An additional tax is imposed on sales of wine and beer at 7 percent of the basic tax rates.

SB256N/1

LIQUOR TAX
ALCOHOL FROM 1/2 OF 1 PERCENT TO 14 PERCENT (WINE)

Explanation of Tax:

An excise tax levied for the privilege of importing, possessing, storing or selling liquor containing from ½ to 1 percent up to and including 14 percent alcohol by volume.

Tax Rate:

40¢ per gallon (deposited to general fund)

General Fund Revenue

FY 1984-85 Actual - $1,716,734
FY 1985-86 Estimate - 1,803,000
FY 1986-87 Estimate - 1,893,000

Estimated Additional Revenue from Tax Increase

Based on FY 1986-87 revenue estimates, an increase of 5¢ per gallon is estimated to generate $237,000 in general fund revenue per year.

Advantages/Disadvantages of This Tax Source

Advantages:

The consumer bears 100% of the tax burden on a product which is not considered a necessity.

Disadvantages:

This revenue source may not yield an annual increase equal to the inflation rate. National liquor consumption has been flat or declined during the past few years. Nevada statistics indicate both years of decline and increase in consumption during the past few years. One way that this problem could be addressed would be to base the liquor tax on wholesale price rather than on the number of gallons. This would allow the liquor tax to be sensitive to price increases.

Tax rates in the Western States* - Tax rates per gallon.

Nevada:	40¢		
Alaska	85¢	Montana	75¢
Arizona	84¢	New Mexico	95¢
California[1]		Oregon	65¢
Colorado	28¢	Utah	13%[2] of retail price
Hawaii	20% of wholesale price	Washington	77¢
Idaho	45¢	Wyoming	28¢

*Source: Commerce Clearing House State Tax Guide

1) 1¢ per gallon under 14% alcohol, 2¢ per gallon over 14% alcohol, 30¢ per gallon for champagne.

2) An additional tax is imposed on sales of wine and beer at 7 percent of the basic tax rate.

SB256N/3

LIQUOR TAX
ALCOHOL FROM 14% TO 22% (CORDIALS)

Explanation of Tax:

An excise tax is levied for the privilege of importing, possessing, storing or selling liquor containing more than 14 percent up to and including 22 percent of alcohol by volume.

Tax Rate:

75¢ per gallon (deposited to general fund)

General Fund Revenue

FY 1984-85 Actual - $247,747
FY 1985-86 Estimate - 252,700
FY 1986-87 Estimate - 257,800

Estimated Additional Revenue from Tax Increase

Based on FY 1986-87 revenue estimates, an increase of 5¢ per gallon is estimated to generate $17,000 in general fund revenue per year.

Advantages/Disadvantages Of This Tax Source

Advantages:
The consumer bears 100% of the tax burden on a product which is not considered a necessity.

Disadvantages:
This revenue source may not yield an annual increase equal to the inflation rate. National liquor consumption has been flat or declined during the last four years. Nevada statistics indicate both years of decline and increase in consumption during the past few years. One way that this problem could be addressed would be to base the liquor tax on wholesale price rather than on number of gallons. This would allow the liquor tax to be sensitive to price increases.

Tax rates in the Western States* - Tax rate per gallon

Nevada: 75¢

Alaska	85¢	Montana	16% of retail price
Arizona	84¢[1]	New Mexico	$3.94
California	$2.00	Oregon	77¢
Colorado	$2.28	Utah	13% of retail price
Hawaii	20% of wholesale price	Washington	price determined by State Board
Idaho	price determined by State Board	Wyoming	95¢

*
1) Source: Commerce Clearing House State Tax Guide
Alcohol under 24 percent

SB256N/2

LIQUOR TAX - ALCOHOL OVER 22 PERCENT

Explanation of Tax:

An excise tax levied for the privilege of importing, possessing, storing or selling liquor containing more than 22 percent of alcohol by volume.

Tax Rate:

Total tax rate of $2.05 per gallon is distributed as follows:

1. $1.40 per gallon is deposited to the state general fund.

2. $0.50 per gallon is distributed to cities and counties on the basis of population.

3. $0.15 per gallon is utilized to support alcohol and drug abuse programs.

General Fund Revenue - ($1.40 per gallon only)

FY 1984-85 Actual - $5,614,677
FY 1985-86 Estimate - 5,727,000
FY 1986-87 Estimate - 5,842,000

Estimated Additional Revenue from Tax Increase

Based on FY 1986-87 revenue estimates, an increase of 10¢ per gallon is estimated to generate an additional $417,300 in general fund revenue per year.

Advantages/Disadvantages of This Tax Source

Advantages:
The consumer bears 100% of the tax burden on a product which is not considered a necessity.

Disadvantages:
This revenue source may not yield an annual increase equal to the inflation rate. National liquor consumption has been flat or declined in the last few years. Nevada statistics indicate both years of decline and increase in consumption during the past few years. One way that this problem could be addressed would be to base the liquor tax on wholesale price rather than on the number of gallons. This would allow the liquor tax to be sensitive to price increases.

Tax Rates in the Western States* - Tax Rate per Gallon

Nevada: $ 2.05

Alaska	$ 5.60[1]	Montana	16% of retail price
Arizona	$ 3.00[1]	New Mexico	$3.94
California	$ 2.00[2]	Oregon	price determined by State Board
Colorado	$ 2.28		
Hawaii	20% of wholesale price	Utah	13% of retail price
Idaho	price determined by State Board	Washington	price determined by State Board
		Wyoming	95¢

1) * Source: Commerce Clearing House State Tax Guide
2) Alcohol over 24 percent
Liquor 100 proof or over - $4.00 per gallon

SB256N/4

CIGARETTE TAX

Explanation of Tax:

A tax levied upon the purchase of cigarettes which is pre-collected by the wholesale dealer to be recovered from the consumer by adding the amount of the tax to the selling price.

Tax Rate:

Total tax of 15¢ per package of 20 cigarettes is distributed as follows:

1. 10¢ per package of 20 cigarettes, less administrative fee (determined by legislative appropriation) is collected by the Department of Taxation and distributed to cities and counties based on population.
2. 5¢ per package of 20 cigarettes is deposited to the state general fund.

General Fund Revenue - (5¢ per package only)

FY 1984-85 Actual - $6,373,400
FY 1985-86 Estimate - 6,501,000
FY 1986-87 Estimate - 6,631,000

Estimated Additional Revenue from Tax Increase

Based on FY 1986-87 revenue estimates, an increase of 1¢ per package of 20 cigarettes is estimated to generate an additional $1,326,000 in general fund revenue per year.

Advantages/Disadvantages Of This Tax Source

Advantages:

The consumer bears 100 percent of the tax burden on a product which is not considered a necessity.

Disadvantages:

One disadvantage is that taxes on cigarettes are regressive - any increase in taxes takes a much higher percentage of income of the poor than of those who are wealthy. Also this revenue source may not yield an annual increase equal to the inflation rate. National cigarette consumption has been flat or declined in the last few years. Nevada statistics indicate both years of decline and increase in consumption over the last few years. One way this problem could be addressed would be to base the tax on wholesale price rather than on the number of cigarettes. This would allow the cigarette tax to be sensitive to price increases.

Tax Rates in the Western States* - Tax Rate per Package of 20 Cigarettes.

Nevada: 15¢**

Alaska	16¢	Montana	16¢**
Arizona	15¢**	New Mexico	12¢**
California	10¢	Oregon	27¢
Colorado	15¢	Utah	12¢**
Hawaii	40% of wholesale price	Washington	23¢
Idaho	9.1¢	Wyoming	8¢

* Source: Commerce Clearing House State Tax Guide

** Additional 8¢ per package of 20 cigarettes is imposed if federal excise tax is reduced from $8 to $4 per thousand cigarettes.

SB256N/C

OTHER TOBACCO TAX

Explanation of Tax:

A tax levied upon the purchase of products made from tobacco, other than cigarettes. The tax is collected by the wholesale dealer.

Tax Rate:

30% of wholesale price (deposited to general fund).

General Fund Revenue

FY 1984-85 Actual - $1,126,893
FY 1985-86 Estimate - 1,149,000
FY 1986-87 Estimate - 1,172,000

Estimated Additional Revenue from Tax Increase

Based on FY 1986-87 revenue estimates, an increase of 5% on the whole price of other tobacco products is estimated to generate an additional $195,000 in general fund revenue per year.

Advantages/Disadvantages Of This Tax Source

Advantages:
The consumer bears 100% of the tax burden on a product which is not considered a necessity.

Disadvantages:
One disadvantage is that taxes on tobacco products are regressive - any increase in taxes takes a much higher percentage of the income of poor persons than those who are wealthy. Also this revenue source may not yield an annual increase equal to the inflation rate. National tobacco consumption has been flat or declined during the last few years.

Tax rates in the Western States* -

Nevada: 30 % of wholesale price

Alaska - 0
Arizona
Tobacco/snuff - 2¢ per oz.
Small cigars - 4¢ each 20
Cigars 5¢ each or less - 2¢ each 3
Cigars over 5¢ - 2¢ each
California - 0
Colorado - 0
Hawaii - 40% of wholesale price
Idaho - 35% of wholesale price
Montana - 12.5% of wholesale price
New Mexico - 0
Oregon - 35% of wholesale price
Utah - 25% of sales price
Washington - 45% of wholesale price
Wyoming - 0

* Source: Commerce Clearing House State Tax Guide

SB256N/8

JET FUEL

Explanation of Tax:

A tax levied upon the number of gallons of fuel distributed for use by jet or turbine-powered aircraft.

Tax Rate:

1¢ per gallon (deposited to general fund)

General Fund Revenue

FY 1984-85 Actual - $1,686,316
FY 1985-86 Estimate - 1,737,000
FY 1986-87 Estimate - 1,789,000

Estimated Additional Revenue from Tax Increase

Based on FY 1986-87 revenue estimates, an increase of 1¢ per gallon of jet fuel is estimated to generate $1,789,000 in general fund revenue per year.

Advantages/Disadvantages Of This Tax Source

Advantages: Tax is ultimately passed on to the user of service. Also, due to the large number of tourists visiting Nevada, a significant portion of this tax is borne by non-residents.

Disadvantages: If the tax reaches a level which is significantly higher than surrounding states, air carriers could choose not to routinely fuel aircraft in Nevada.

Tax Rates in the Western States* - Rate per Gallon

Nevada: 1¢

Alaska	2½¢**	Montana	1¢
Arizona	0	New Mexico	0 **
California	2¢ + sales tax	Oregon	½¢
Colorado	0	Utah	4¢
Hawaii	1¢	Washington	3¢ (General Aviation only)
Idaho	3½¢	Wyoming	4¢

* Source: Commerce Clearing House State Tax Guide
** Foreign flights exempt.

SB256N/5

ROOM TAX

Explanation of Tax:

A tax imposed on the gross receipts from rental of lodging.

Tax Rate: 3/8 of 1 percent is utilized to fund the State Commission on Tourism. The total tax rate in Reno and Las Vegas is 7 percent.

Revenue Generated from Room Tax

	3/8 of 1 Percent
FY 1984-85 Actual -	$2,625,421
FY 1985-86 Estimate -	2,860,000
FY 1986-87 Estimate -	3,146,000

Estimated Additional Revenue from Tax Increase

Based on FY 1986-87 revenue estimates, an increase of 1 percent in the room tax statewide is estimated to generate $8,389,000 in additional revenue per year.

Advantages/Disadvantages of This Tax Source

Advantages:

The majority of the tax burden is borne by nonresidents.

Disadvantages:

If the tax rate is too high, some tourists may be discouraged from traveling to Nevada. Also, this tax source may be subject to fluctuations in the economy.

Tax rates in the Western States* - The room tax rate is usually set at the local level and can vary from one city to another in each state. Therefore, the tax rate imposed in the major city of each western state is provided below.

Nevada: Reno 7%
Las Vegas 7%

Alaska
Anchorage - 4%

Arizona
Phoenix - 7%

California
San Francisco 9.75%
Los Angeles 11.00%

Colorado
Denver - 5%

Hawaii
Honolulu - none
However, lodging is subject to 4% sales tax

Idaho
Boise - 2%

Montana - none

Oregon
Portland - 6%

Utah
Salt Lake City 4%

Washington
Seattle - 5%

Wyoming - none

* Source: Local Visitors Bureau in each city listed.

SB256N/RT

GAS TAX

Explanation of Tax:

A tax imposed on motor vehicle fuel sold, distributed or used in the State of Nevada.

Tax Rate:		
	State Gas Tax	10¢ per gallon
	Local Gas Tax	1.25¢ per gallon
	County Gas Tax	1.75¢ per gallon
	Total	13.00¢ per gallon

General Fund Revenue[1]
FY 1984-85 - Ø

Estimated Additional Revenue from Tax Increase

Based on FY 1984-85 revenue collections deposited to the State Highway Fund totaling $43,525,935 (9¢ per gallon state tax only), an increase of 1¢ in the gasoline tax is estimated to generate $4,836,000 in additional revenue per year.

Advantages/Disadvantages of This Tax Source

Disadvantages:

Because of smaller more fuel efficient cars, gasoline consumption has not increased dramatically and gasoline taxes have been raised to compensate for the increased cost of highway construction and maintenance. Therefore, gasoline taxes may not be a good choice for general fund revenue enhancement since additional revenue from this source may need to be raised to support highway maintenance.

Tax rates in the Western States[2] - Rate per gallon of gasoline.

Nevada:[3]	13¢		
Alaska	8¢	Montana	15¢[5]
Arizona	16¢[4]	New Mexico	11¢[6]
California	9¢	Oregon	11¢[7]
Colorado	12¢	Utah	14¢[8]
Hawaii	up to 18.5¢	Washington	18¢
Idaho	14.5¢	Wyoming	8¢

1) Article 9, Section 5 of the Nevada Constitution requires that proceeds from an excise tax on gasoline or other motor fuel, except for administrative costs, be used exclusively for the construction, repair and maintenance of public highways.

2) Source: Commerce Clearing House State Tax Guide.

3) Counties may impose an additional tax up to 5¢ per gallon. The county commission may impose a 4¢ per gallon tax. The county commission may also impose an additional 1¢ per gallon tax with the approval of the voters. The following counties have imposed the optional county tax: Churchill 2¢, Clark 5¢, Douglas 2¢, Elko 2¢, Humboldt 4¢, Lander 2¢, Mineral 2¢, Nye 4¢, Pershing 1¢, Washoe 4¢, White Pine 4¢, Carson City 4¢.

4) Localities which meet certain criteria may impose a 1¢ per gallon tax. To date no locality has imposed the tax.

5) A county may impose up to a 2¢ per gallon tax. To date no counties have imposed the tax.

6) Certain counties may impose up to a 2¢ per gallon tax if approved by the voters. To date no localities have imposed the tax.

7) The tax is increased to 12¢ per gallon effective 1/1/87. Localities may levy local gasoline taxes. Two counties have imposed a gasoline tax. Multnonah County 3¢ per gallon, Washington County 1¢ per gallon.

8) Any city with a population over 400,000 may impose up to a 2¢ per gallon tax. To date no cities have imposed the tax.

SPECIAL FUEL TAX

Explanation of Tax:

A tax imposed on special fuels sold (mainly diesel fuel), distributed or used in the State of Nevada.

Tax Rate:

13¢ per gallon.

General Fund Revenue[1]

FY 1984-85 - 0

Estimated Additional Revenue from Tax Increase

Based on FY 1984-85 revenue collections deposited to the State Highway Fund totaling $11,272,350, an increase of 1¢ in the special fuel tax is estimated to generate $939,400 in additional revenue per year.

Advantages/Disadvantages of This Tax Source

Disadvantages:
Because of smaller more fuel efficient cars, consumption of motor fuels has not increased dramatically and motor fuel taxes have been raised to compensate for the increased cost of highway construction and maintenance. Therefore, motor fuel taxes may not be a good choice for general fund revenue enhancement since additional revenue from this source may need to be raised to support highway maintenance.

Tax rates in the Western States[2] - Rate per gallon.

Nevada: 13¢

Alaska	8¢	Montana	17¢
Arizona	16¢[3)]	New Mexico	11¢[4)]
California	9¢[3)]	Oregon	11¢[4)]
Colorado	13¢	Utah	14¢[5)]
Hawaii	up to 20.5¢	Washington	18¢[5)]
Idaho	14.5¢	Wyoming	Ø

1) Article 9, Section 5 of the Nevada Constitution requires that proceeds from an excise tax on motor fuel, except for administrative costs, be used exclusively for construction, repair and maintenance of public highways.
2) Source: Commerce Clearing House State Tax Guide.
3) Localities which meet certain criteria may impose a 1¢ per gallon tax. To date no locality has imposed the tax.
4) The tax is increased to 12¢ per gallon effective 1/01/87.
5) Any city with a population over 400,000 may impose up to a 2¢ per gallon tax. To date, no cities have imposed the tax.

SB256N/DF

TAX SOURCES UTILIZED IN OTHER STATES

PERSONAL INCOME TAX

Explanation of Tax - Not an Existing Tax Source--A tax applied against the net income of individuals, estates and trusts, including shares of net income of unincorporated businesses and partnerships.

Assumption to Determine Revenue Estimate--Federal personal income tax rates range from 0% to 50%. Revenue estimate assumes Nevada would impose a tax rate at 10% of the federal income tax rate (Actual rate 0% to 5%).

Estimated Revenue from Tax[1]

FY 1985-86	$102 Million
FY 1986-87	$110 Million

Advantages/Disadvantages of This Tax Source

Advantages: Relatively easy to administer and provides broad tax base. Stabilizes tax base because revenues increase with inflation. The income tax has been cited as one of three tax sources (the other two are property and sales) which contribute to a moderate or balanced tax system.

Disadvantages: Tends to hamper economic development if tax rate is high. An income tax, depending on how it is structured, can be regressive, proportional or progressive. In Nevada, income taxes have not been a popular method of raising revenue for support of state or local government.

Tax Rates in the Western States[2]

Alaska	0	Montana	2% to 11% ($43,900)
Arizona	2% to 8% minus $223 ($6,366)	New Mexico	0.7% to 7.8% ($100,000)
California	0% to 11% ($26,601)	Oregon	4% to 10% ($5,000)
Colorado	3% to 8% ($14,151)	Utah	2.25% to $356 plus 7.75% ($7,500)[3]
Hawaii	0% to 11% ($61,000)[3]	Washington	0
Idaho	2% to 7.5% (5,000)[4]	Wyoming	0

1) Based on federal FY 1984 tax data for Nevada.

2) Source: Commerce Clearing House State Tax Guide. Reflects tax rates for single persons unless otherwise noted. Bracketed amount is income level at which top tax rate is triggered.

3) Rates for joint returns.

4) Each return pays an additional $10.

MISC20/2

CORPORATE INCOME TAX

Explanation of Tax - Not an Existing Tax Source—A tax applied against the net income (profits) of corporations and similar organizations.

Assumption to Determine Revenue Estimate—Tax rate schedule ranging from 2.25% to 6.9% (equal to 15% of federal tax rates).[1]

Estimated Revenue from Imposing a Tax on Corporate Income

FY 1985-86	$40 Million
FY 1986-87	$43 Million

Advantages/Disadvantages of This Tax Source

Advantages: A corporate income tax would broaden the tax base and would be relatively easy to administer. A corporate income tax could potentially produce considerable amounts of revenue.

Disadvantages: Difficult to determine on whom the burden falls, whether capital, labor or consumers. Selection of appropriate definition of taxable income is difficult. Because it applies to corporate sector only, induces capital to move into other sectors of the economy. Based on the revenue estimate outlined above, it would produce double taxation on gaming establishments. A corporate income tax could put Nevada manufacturers at a price disadvantage when selling products to national and world markets. Also, a corporate income tax could be a deterrent to recruiting new industries to Nevada.

Tax Rates in the Western States[2]

Alaska	1% to 9.4% ($90,000)	Montana	6.75%[4]
Arizona	2.5%[4] to 10.5% ($6,000)[3]	New Mexico	4.8%[4] to 7.2% ($2 million)
California	9.6%[4]	Oregon	7.5%[4]
Colorado	5.0%	Utah	5%[4]
Hawaii	5.85%[4] to 6.435% ($25,000)[5]	Washington	0
Idaho	7.7%[4][6]	Wyoming	0

1) Based on U.S. relationship between corporate profits and personal income as applied to Nevada personal income.

2) Source: Commerce Clearing House State Tax Guide. Bracketed amount is income level at which top tax rate is triggered.

3) Federal income tax is deductible from income.

4) Imposes minimum tax: California $200; Idaho $20; Montana $50, except $10 for small business corporations; Oregon $10; Utah $100.

5) Capital gains taxed at 3.08%.

6) Each corporation with gross income pays an additional $10.

SALES TAX ON SERVICES

Explanation of Tax:
A tax applied against the gross sales of services except those transactions between employee and employer.

Assumption to Determine Revenue Estimate:
Current tax rate applied to all services (including but not limited to medical and dental services, legal services, engineering services, auto repair, dry cleaning, barber/beauty services, utility services, construction, house repair and remodeling, funeral services, amusements including movies, concerts, etc., day care, advertising by radio, TV or newspaper, data processing, accounting and janitorial services) not currently exempted by federal or state law.

Estimated Revenue From Tax[1)]

	FY 1985-86 (est.)	FY 1986-87 (est.)
2.00 Percent State -	$76.5 Million	$82.5 Million
1.50 Percent School -	57.5 Million	61.5 Million
2.25 Percent City/County -	86.5 Million	92.5 Million

Advantages/Disadvantages of This Tax Source
Advantages: Taxing services would broaden the tax base which may reduce the impact of revenue fluctuations during recessionary periods such as those experienced during the early 1980's. Also, the overall tax rate could be lowered by expanding the tax base. Due to broadening the tax base, sales taxes could be raised or lowered in small increments when fluctuations in the economy require revenue adjustments. Finally, a sales tax on services is more progressive than a sales tax on goods because consumption of services increases at a greater rate as income rises.

Disadvantages: Taxing all services would not exempt certain items many people feel are necessities such as medical and dental services, legal services, and utilities (telephone, electric, water, sewer, gas). There would also be an additional cost to administer a sales tax on services. The Department of Taxation has estimated that approximately $1 million (on a one-shot basis) would be needed to acquire additional data processing capability. In addition, the department's current audit staff compliment of 30 auditors would need to be enhanced to some degree.

Tax rates in the Western States[2)] -

Alaska	No State Sales Tax	Montana	No State Tax
Arizona	5% Limited Application	New Mexico	3.75% Comprehensive Application
California	4.75% Limited Application	Oregon	No State Sales Tax
Colorado	3% Limited Application	Utah	4 5/8% Gen. Application
Hawaii	4% Comprehensive Application	Washington	6.5% General Application
Idaho	4% Limited Application	Wyoming	3% General Application

1) Assuming a broad based tax with no exemptions at 7.5 percent growth rate per year.
2) Comprehensive Application - applied to all services with few exceptions.
General Application - Applied to all services with many exceptions.
Limited Application - Applied to specific services by statute.

SB256N/STS

LOTTERY[1)]

Explanation of Tax (Not an Existing Tax Source)

A game of chance operated for or by the state.

Assumption to Determine Revenue Estimate

The revenue estimate provided was made by Scientific Games, Inc. based on first year per capita sales of the four newest lotteries which have completed a full year of sales (Arizona, Colorado, District of Columbia, Washington). Based on 1980 census population estimates for Nevada and assuming the net proceeds from lottery sales of 35 percent - 40 percent Scientific Games, Inc. indicates that Nevada could expect between $19 - $22 million per year.

Estimated Revenue From Tax[2]

FY 1985-86 Estimated - $19 - $22 million
FY 1986-87 Estimated - $20 - $23 million

Advantages/Disadvantages of This Tax Source

Advantages:
Income from this revenue source would be totally voluntary. Also, it is an accepted revenue source in many other states and could produce a substantial amount of revenue.

Disadvantages:
Revenue estimates are based on average experience in other states. Nevada could differ substantially from the averages especially since Nevada has legalized gambling. There will be considerable competition from surrounding states which currently have lotteries such as Arizona and California. Finally, there will be some impact on other tax sources such as sales and use tax and gross gaming fees.

Lotteries in Western States

Alaska	No	Montana	No
Arizona	Yes	New Mexico	No
California	Yes	Oregon	No
Colorado	Yes	Utah	No
Hawaii	No	Washington	Yes
Idaho	No	Wyoming	No

1) Currently prohibited by Article 4, Section 24 of the Nevada Constitution.

2) Revenue estimates -- Scientific Games, Inc.

SB256N/L

BUSINESS INVENTORY TAX[1)]

Explanation of Tax - Not an Existing Tax Source--A personal property tax applied against the merchandise in inventory of a merchant or manufacturer.

Assumption to Determine Revenue Estimate--Current average statewide property tax rate of $2.11 per $100 of assessed valuation applied against estimated assessed value of business inventories of $443.1 million in FY 1986 and $487.4 million FY 1987.

Estimated Revenue from Tax

FY 1985-86	$ 9.3 million[2)]
FY 1986-87	$10.2 million[2)]

Advantages/Disadvantages of This Tax Source

Advantages: Would require little additional administrative burden since some personal property is currently being assessed and taxed.

Disadvantages: This tax can be evaded by keeping inventories low at time of assessment. Business decision-making may be influenced by tax considerations instead of consumer demand. Also, this tax would be a deterrent for new industry and warehousing from locating in Nevada.

Tax Rates in the Western States[3)]

Alaska	$0.10 to $1.435 per $100 of full value[4)]	Montana	0
Arizona	0	New Mexico	0[5)]
California	0	Oregon	0
Colorado	0	Utah	0
Hawaii	0	Washington	0
Idaho	0	Wyoming	0

1) Currently prohibited by Article 10, section 1 of the Nevada Constitution.

2) State share if taxed under current law would be $88,620 in FY 1985-86 and $97,480 in FY 1986-87.

3) Source: Commerce Clearing House State Tax Guide.

4) Local governments only.

5) There are a few exceptions.

MISC20/BIT

OIL PRODUCTION*

Explanation of Tax: Not an Existing Tax Source A new revenue source which would impose a tax on each barrel of oil produced in Nevada.

Estimated Additional Revenue from Imposing a Tax on Oil Production

Assuming a 50¢ per barrel tax based on calendar year 1985 estimates on oil production made by the Department of Minerals, a total of $1,750,000 - $2,000,000 per year would be generated. Some estimates have Nevada oil production increasing dramatically through 1990. If these production estimates are realized, substantially more revenue would be generated in the future.

Advantages/Disadvantages of This Tax Source

Advantages:
Estimates made by the Department of Minerals on the number of barrels produced in Nevada indicate an increase of two to three times current production by 1990. If these estimates are realized, this source of revenue could provide a substantial amount of income to Nevada.

Disadvantages:
A tax based on price per unit does not respond to changes in the price of the product. This tax would also be subject to fluctuations in the economy and/or market conditions. Also, a per barrel tax will be a detriment to exploration activities in Nevada.

Tax rates in the Western States**

Nevada - Oil production is taxed based on net proceeds. In addition, an oil and gas conservation tax is assessed at 50 mills per barrel of oil or 50,000 cubic feet of natural gas and is utilized to finance the Department of Minerals.

1. Alaska - The greater of 60¢ per barrel for old crude oil (80¢ per barrel for all other) or 15 percent of gross value at production point (multiplied by economic limit factor).

   The greater of $.064 per 1,000 cubic feet of gas or 10 percent of gross value at production point (multiplied by economic limit factor).

   Additional $.125 per barrel of oil is imposed as oil and gas regulation and conservation tax.

2. Arizona - None.

3. California - $.01803 per barrel of oil or 10,000 cubic feet of natural gas.

4. Colorado - The gross income from crude oil and natural gas is subject to a tax at the following rates.

Gross Income	Tax Rate
Under $25,000	2%
$25,000 and under $100,000	3%
$100,000 and under $300,000	4%
$300,000 and over	5%

In addition every producer of oil or gas is required to pay an oil and gas conservation tax not to exceed 1 mill per $1 of market value at the well of oil or gas. The current tax rate is set at 6/10ths mill.

5. Hawaii - None.

6. Idaho - 2 percent of the market value of oil or gas produced at the site of production. In addition a tax not to exceed 5 mills per barrel of oil or 50,000 cubic feet of gas is imposed at the time of production. The Oil and Gas Conservation Commission fixes the amount of the tax annually.

7. Montana - 5 percent of total gross value of oil produced: 2.65 percent of total gross value of natural gas produced.

   A conservation tax not to exceed 0.2 percent of the market value of each barrel of oil or each 10,000 cubic feet of natural gas produced is imposed. The current tax is levied at the rate of 0.08 percent.

8. New Mexico Oil and Gas Severage Tax - Oil - 3.75 percent of value of product less any royalties paid and less a reasonable expense of transporting from place of production to market. Natural Gas - 15.7¢ on each 1,000 cubic feet.

   Oil and Gas Privilege Tax - 3.15 percent of the value of oil or natural gas produced less a reasonable expense of transporting from place of production to market.

   Oil and Gas Ad Valorem Production Tax - A tax is imposed on each person owning an entire or fractional interest in oil or natural gas at the time of severage or on anyone who has a right to monetary payment. The tax is imposed on the assessed value which is an amount equal to 150 percent of the value of the products after deducting:

   1. Any royalties paid;
   2. Reasonable expense for transporting to the first place of market.

   Oil and Gas Conservation Tax - A tax is imposed on the value of all oil and natural gas at a rate not to exceed 19/100 of 1 percent. The current value is 18/100 of 1 percent.

Oregon - A tax of 6 percent of the gross value at the well on oil and gas produced within the state.

Utah - A tax of 4 percent of the value at the well of oil, gas and other hydrocarbons.

In addition, an oil and gas conservation tax is imposed at a rate of 2 mills per dollar of market value at the well for all oil and gas produced in the state.

Washington - None.

Wyoming - An excise tax of 2 percent is imposed on production of petroleum, natural gas, oil shale or any other fossil fuel. In addition, an oil and gas production tax is imposed not to exceed 4/5 mill per dollar. The current rate is 1/10 mill per mill.

* If an oil production tax is imposed in lieu of taxing oil on the basis of net proceeds, the oil production tax would be prohibited by Article 10, Section 1 of the Nevada Constitution.

** Source: Commerce Clearing House State Tax Guide

SB256N/OP

UTILITY TAX

Explanation of Tax - Not an Existing Tax Source:

A tax applied against the gross receipts or output of a public utility.

Assumption to Determine Revenue Estimate:

Tax applied to gross receipts of all public utilities.

Estimated Revenue From Tax

Based on information received from the Public Service Commission in calendar year 1984, the imposition of a 1 percent tax on the gross receipts of all public utilities would have generated $10,636,000.

Advantages/Disadvantages of This Tax Source

Advantages:

This potential source of revenue would be broad based and not subject to wide fluctuations in the economy. This tax source would also be sensitive to increases in inflation and could provide a substantial amount of revenue.

Disadvantages:

This tax would be regressive - payment of taxes would take a larger percentage of income of the poor than those who are wealthy. Also, this action would tax an item many consider a necessity.

Tax rates in the Western States[1] -

Nevada: A maximum of 3.5 mills can be assessed which is utilized to fund the operation of the Public Service Commission. The current assessment is 3.35 mills. Also a maximum of .75 mills can be assessed to finance the Office of the Consumer Advocate. The current assessment is .60 mills.

Alaska	½ mill - 2%	Montana	.02% - 5.5%
Arizona	.2% - 2%	New Mexico	2.5%
California	1/10 mill - .75%	Oregon	.25% - 6%
Colorado	up to .2%	Utah	.3%
Hawaii	.5 - 5.35%	Washington	.6% - 3.6%
Idaho	.05%	Wyoming	.3%

[1]Source: Commerce Clearing House State Tax Guide
Tax rates not comparable because of wide variance in types of utilities taxed and unit of measure to which tax is applied.

SB256N/UT

ESTATE "PICKUP" TAX*

Explanation of Tax:

Under federal law, a credit is allowed against the federal estate tax up to a certain amount for each estate. This tax would impose a tax equal to that maximum amount.

Estimated Additional Revenue from Tax Increase

This revenue source is subject to very wide fluctuations from year-to-year. Estimates for 1977 to 1980 range from $2.0 million to $17 million per year. However, on the average between 1975 to 1983 it is estimated that between $5 - $7 million per year would have been generated if Nevada had collected the "pickup" portion of the federal estate tax.

Advantages/Disadvantages of This Tax Source

Advantages:
Enactment of this tax does not increase the tax payable by an estate. If Nevada does not collect this tax, it is forwarded to the Federal Government for their use. Every state in the nation except Nevada currently claims at least the "pickup" portion of this federal tax.

Disadvantages:
This revenue source is subject to wide fluctuations from year-to-year. Also Nevada voters at the November 1982 general election rejected a proposal to amend the Nevada Constitution to authorize the state to impose an estate tax limited to the credit allowable against the federal estate tax. However, Nevadans will have another opportunity to vote on this issue. The 1983 and 1985 Legislative Sessions approved a resolution to amend Article 10, Section 1 on the Nevada Constitution to allow for an estate "pickup" tax. The question will be put to Nevada voters at the November 1986, general election.

Tax rates in the Western States

All states except Nevada collect the credit allowable against the federal estate tax.

*Currently prohibited by Article 10, Section 1 of the Nevada Constitution.

SB256N/EPT